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HYPERTROPHY OF THE PHARYNGEAL OR LUSCHKA'S TONSIL.

Read in the Section on Laryngology and Otology, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

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CHICAGO, ILL.

Hypertrophy of the pharyngeal or Luschka's tonsil, by some authors termed adenoid growths, consists of an abnormal enlargement of the glandular tissues normally found in the vault and walls of the pharynx. It is characterized by obstruction of nasal respiration, with catarrhal symptoms and in many cases partial deafness, with alterations in the voice partially due to obstruction of the resonant chamber in the posterior nares, and partially to changes in the larynx caused by mouth-breathing. There is also more or less deterioration of the general health, and frequently deformity of the chest; in many instances mental hebetude and imperfect physical development are very pronounced. Attention was first directed to this condition by Meyer, of Copenhagen, in 1860, and later by Loewenberg, of Paris, who reported three cases in 1865. The same author subsequently published a complete *résumé* of the subject in 1879. A thorough discussion of the subject was brought out by Meyer's paper at the International Medical Congress in London in 1881; since which time so many articles have been written upon the subject that it has been worn almost threadbare. Nevertheless it appears to me that an analysis of a considerable number of cases occurring in private practice may furnish some new items of interest concerning the affection, or at least aid in settling some of the uncertain points in its clinical history.

Notwithstanding the many cases that have been reported by laryngologists, the disease is not so common as would at first appear. I find among my records of private patients since 1881, histories of between 11,000 and 12,000 persons, of whom about 90 per cent. or in even numbers 10,000, came to me because of some disease of the chest, throat or nasal cavity. Of these, 203 or in even numbers, 200, equaling only 2 per cent. of the whole, had hypertrophy of the pharyngeal tonsil. It is impossible to determine the relative frequency of diseases of the chest, throat and nose, but as only 2 per cent. of these special cases suffer from enlargement of this gland, it is clear that the percentage must be infinitely smaller when all classes of disease are considered.

I find in 10,000 consecutive cases of diseases of the chest, throat and nasal cavities, 200 cases of hypertrophy of the pharyngeal tonsil. Of these 65 per cent. were residents of the city, and 35 per cent. came from the country or smaller towns. As only 27 per cent. of the whole number of my private patients within the last decade have come to me from out of the city it would appear upon the face of these statistics that the disease is about 50 per cent. more frequent in the country than among residents of the city. This does not agree with my deductions when considering the influence of sex, where I state that because of their living more out of doors boys seem less liable to the disease than girls. Possibly the disparity in this respect is due to the relatively larger number of city physicians who would treat this affection, thus diminishing the number of such patients who would consult any one specialist.

Out of the 200 cases of hypertrophy of Luschka's tonsil that have consulted me, in some the condition was of so little importance that it had not attracted the patient's attention, and was only discovered incidentally in making the ordinary examination; in many others I was consulted merely for diagnosis, and in still others for various causes the history has been imperfectly taken, so that the records are worthless for purposes of study. Excluding most of the foregoing I have selected 100 cases as nearly consecutive as possible, not from any special feature which the case might present, but simply because of the completeness of the history, and I have excluded a considerable number of cases similar to these, not from any peculiarity of the history, but because it is more convenient to deal with an even hundred. These cases therefore, ought not to be considered as selected cases in the ordinary acceptance of this term; though it is probable that patients presenting the most pronounced symptoms were most carefully interrogated by my assistants who took the histories.

In my further consideration of this subject I shall confine myself to a study of these 100 cases which I think fairly and honestly represent the cases of well developed hypertrophy of the pharyngeal tonsil who would present themselves to a physician in private practice in this country.

The affection nearly always develops in infancy or early childhood. From the ages of the patients recorded, it appears that the disease is most frequent in children between the ages of 2 and 15; 54 per cent. being observed between the second and eighth year and 37 per cent. between the ninth and sixteenth. But the affection is also seen in older persons. Seven cases were found between the ages of 18 and 25, and one each at the ages of 26 and 37 respectively. These results differ widely from Meyer's, who observed less than 37 per cent. under 10 years of age, and less than 62 per cent. all told under 15. They differ even more widely from Bosworth's statistics which show less than 30 per cent. under 15 years of age. The difference is probably to be explained by the fact that I have ignored cases in which the growth had not attained sufficient size to cause the patient inconvenience, or had atrophied to such an extent as to have become unimportant.

A more critical examination of the histories in the endeavor to ascertain when the symptoms first appeared, indicates that the disease was certainly developed in 90 per cent. of the cases in infancy or very early childhood. Many of these cases were said to have had difficulty in breathing since birth, and it is probable that in some of these the growth was congenital. I doubt very much whether the disease is ever developed after puberty.

From my statistics the affection appears to be more frequent in girls than in boys, 41 per cent. having been recorded as males and 59 per cent. females. This is possibly due to the fact that boys being so much more out of doors than girls are apt to be more vigorous and consequently less liable to hypertrophy of the adenoid tissues.

In Meyer's cases a little over 51 per cent. were males, but in Bosworth's cases only 36 per cent. were males. When it is remembered that in Copenhagen and its vicinity, the girls live more as do the boys than in this country, and are consequently more vigorous, my explanation of the influence of sex seems partially substantiated and it appears probable that under the same hygienic conditions there would be no difference in the frequency of this affection in the two sexes. Militating against the correctness of this view is the fact that Greville Mac donald and Sir Morell Mackenzie found the disease considerably more prevalent in males. This, however, may have been due to their considering many cases in which the gland had dwindled into insignificance; for it would appear reasonable to suppose that as puberty occurs at an earlier age in girls than in boys and as these glands usually atrophy at that period, the hypertrophy among girls would be noticed less frequently among them after the age of 11 or 12 than among boys of similar years. The fact that Woakes, also of London, found this affection about equally in the two sexes suggests that there must have been some radical difference in the method of analyzing the cases by different observers. Keeping in view the fact that 90 per cent. of the cases I am considering were observed before the age of puberty, and that all of them were well marked, there seems little room for doubt that, in this locality, at least, the disease is more prevalent among girls than boys.

The anatomic and pathologic characteristics of this affection have been so thoroughly described by Meyer, Loewenberg, and subsequent writers that I will pass them by.

Etiology.—In an affection which has generally existed for years before the physician is consulted, it is impossible to obtain any very accurate idea of the causation; but this analysis seems to prove that enlargement of Luschka's tonsil in the great majority of cases is due to the same causes as hypertrophy of the faucial tonsils. It is attributed by various authors to hereditary influences, to the strumous and rheumatic diathesis, to diphtheria and the exanthematous diseases, to catarrhal troubles and to frequent colds.

I find among my cases several that appear to be congenital, though in none of these could this be stated certainly. Ten per cent. were apparently of hereditary origin as shown by the occurrence of two or more cases in the same family; 3 per cent. appeared to follow immediately after measles; 4 per cent. after scarlet fever; 1 per cent. after diphtheria; 3 per cent. were attributed by the parents, or the patient, to pneumonia or influenza; and a large number, amounting to 16 per cent., were attributed to frequent colds, or to what is doubtless included in the classification of some authors as a catarrhal condition. In 63 per cent. nothing could be discovered which appeared in any way to account for the origin of the disease. I find in the same connection that 35 per cent. of these patients were subject to frequent diseases of the throat.

In 76 per cent. one or both of the faucial tonsils were also enlarged in the same case; in 7 per cent. one, and 69 per cent. both. This coincident enlargement of the faucial tonsil occurs in such a large number of cases as to indicate that the two conditions are commonly dependent upon the same causes, and it leads us to suspect that many of the results formerly attributed to enlargement of the faucial tonsils, more especially affections of the eye and ear and alterations of the voice, were in reality due to enlargement of Luschka's tonsil. In the great majority of cases where any of these symptoms just referred to appear with enlargement of the faucial tonsils, excision of the latter will be found to have but little influence, unless the pharyngeal tonsil is also removed. Scrofulous affections or enlargements of glands in other parts of the body were noted in only 2 per cent. of the cases.

Symptomatology.—The symptoms which are most commonly noticed by the parents or friends are: Snoring, loud breathing at night, restlessness, poor sleep with bad dreams, mouth breathing and general debility. The most frequent objective symptoms are: Impairment of the voice, deafness, and partial loss of the sense of smell. The patient's strength as indicating his general condition is noted in 65 cases, in 80 per cent. of which it was found to be good, in 18 per cent. only fair, and in 2 per cent. poor. The general debility apparently resulted in most of these cases from the imperfect aeration of the blood in consequence of obstructed respiration. Pains in various parts of the body were complained of in a few instances. The sense of sight was affected in 1 per cent. of the cases, and the sense of smell in 11 per cent. Frequent headache was complained of in 27 per cent. of the cases. Deafness is a common result of hypertrophy of Luschka's tonsil, the sense of hearing having been found impaired in 33 per cent. of these cases. In only 38 cases has any reference been made to the patient's mental condition, but because of the frequency with which these patients appear to be dull, I am surprised to find that in only one case is it noted that there was any impairment of the mental condition, and in this case it is stated that the patient appeared to be idiotic, a condition which seemed to have had no relation to the obstruction of the naso-pharynx. The condition of the voice is noted in sixty-five cases; in 30 per cent. of these it is said to be normal, but in fifteen muffled, impeded or thick; in forty nasal, and in fifteen hoarse or husky, showing that it was affected in 70 per cent. of the cases where the condition of the voice was mentioned.

The condition of the respiration was noted in forty-six cases, in 60 per cent. of which it was found to be unaffected, but in 40 per cent. there was decided dyspnea. In only 8 per cent. of these the dyspnea was said to have occurred at night or during sleep, while in the remaining 32 per cent. the dyspnea was also noticed during the day.

More or less cough is a frequent symptom, with

regard to which I find notes in seventy-three cases; of these 60 per cent. had no cough; in 12 per cent. it was described as slight or inconsiderable, in 12 per cent. as hacking to clear the throat, and in 12 per cent. as severe. In 6 per cent. of these seventy-three cases the cough occurred especially at night, or in the early morning.

The condition of the nasal cavities is noted in eighty-six cases, in 30 per cent. of which they were described as free or normal; in 12½ per cent. they were obstructed by exostosis from the septum, and in 50 per cent. by hypertrophy or swelling of the inferior turbinated bodies. Excessive secretion or other catarrhal symptoms were also noted in 60 per cent. of the cases. This would appear to sustain the theory advanced by MacDonald ("Diseases of the Throat and Nose," 1890), that a majority of cases of enlargement of Luschka's tonsil are due to obstruction of the nasal passages consequent upon rarification during inspiration of the air in the naso pharynx. However, as my records do not enable me to determine whether in these cases the obstruction of respiration preceded or followed the enlargement of Luschka's tonsil, the evidence for or against this proposition can not be considered conclusive; but there has always been a question in my mind whether the obstruction of the nasal cavities from swelling of the soft tissues in such cases was not the result rather than the cause of the hypertrophy of the pharyngeal tonsil.

The excessive discharge in nearly all of these cases is clearly the result of obstruction in the naso-pharynx, which independently of its influence on the congestion of the mucous membrane, prevents evaporation of the secretions and causes their collection in the nasal fossæ.

In many cases, enlargement of the pharyngeal tonsil may be suspected from the appearance of the follicles in the lower portion of the pharynx. I find the condition of the pharynx noted in eighty-one cases, in 25 per cent. of which the follicles were found decidedly enlarged.

Deafness is noted in forty cases; the right ear was affected in twenty-four, the left in twenty-one, but there seems to be no relation between deafness upon one side and enlargement of the corresponding faucial tonsil; indeed, deafness appears to have been present quite as frequently when the faucial tonsils were but little enlarged as where these latter organs were greatly hypertrophied; therefore, so far as these statistics go they would seem to substantiate the statement already made, that affections of the special senses formerly supposed to have resulted from hypertrophy of the tonsils, have doubtless in most cases been caused by enlargement of the pharyngeal tonsil. In twenty-two of these the deafness was entirely cured or greatly improved by the treatment.

The form of the chest walls has been noted in only fifteen cases, but it is fair to suppose that in a majority of the others it was in a normal condition, otherwise it would have attracted the parents' attention and have been mentioned in the course of the examination. In the records where the condition of the chest walls is referred to it was normal in twelve and more or less deformed in only three of the cases.

Diagnosis.—The diagnosis in these cases was usually made by inspection of the posterior nares with the rhinoscope, aided sometimes by anterior rhinoscopy and the nasal probe, but in young or unmanageable children in whom the throat mirror could not be properly used, it was verified by the finger passed into the naso-pharynx.

Treatment.—Many of the cases that have come under my observation were brought to me simply for diagnosis and suggestions for treatment, the patient subsequently having been placed under the care of some other physician. In some instances where the parents feared an operation, internal treatment has been recommended and carried out for a greater or less period of time, sometimes with advantage but in others with no effect. In still other instances surgical procedures have been carried out by other physicians, and I have been unable to obtain information of the results.

In the whole 200 cases, removal of the gland by operation was recommended in only 120 or 60 per cent., and in the 100 cases I am now considering it was recommended in only 90 per cent., and performed by me in only 76. In a considerable number of the patients upon whom I have operated, the records of treatment are very imperfect for the reason that speedily after the gland was removed the symptoms disappeared and the patient was considered well, so that I have heard nothing more of the case.

The records show that in fourteen cases internal treatment consisting of syrup of the iodid of iron or syrup of hydriodic acid, was suggested, and that in ninety cases surgical procedures were recommended. By consulting my records and the replies of parents or friends to my letter of inquiry, I find that the hypertrophied gland was removed in 76 of these 100 cases; that it was treated by local applications of chromic acid in 11 cases, but that the patient received internal treatment only in 13 cases. In fifty of the cases operated on, one or both of the faucial tonsils were also found more or less enlarged and in twenty-two cases they were removed at the time of the operation on Luschka's tonsil.

One of the most notable results of freeing the naso-pharynx from this obstruction has been its effect upon the general condition. It is not uncommon for young children within six months after the operation to gain from 20 to 40 per cent. in weight and correspondingly in vigor and endurance.

Although in very few cases was the mental condition noted when the record was first made, I find by inquiry of parents or friends of the patient that the mental condition has been improved in 12 per cent. of cases in which an operation has been performed.

Deafness was noted in only forty cases and the effects of treatment upon the sense of hearing was recorded in only thirty-seven. In 30 per cent. of these there had been no improvement; in 4 per cent. there has been slight improvement, and in 66 per cent. the deafness has been greatly ameliorated or cured; the latter result being noted in 33 per cent. of the cases.

In the whole number of cases the voice was noted to have been affected in forty-five. In three of these no improvement was observed as a result of treatment; in some no subsequent history could be obtained, but in thirty-five, or 77 per cent., great improvement has been observed.

Of these 100 cases, 56 complained of catarrhal symptoms. Eighty-six per cent. of these have been greatly improved by the treatment, though 14 per cent. seem not to have been benefited. This appears to justify the opinion, already expressed, that the obstruction of the nasal passages is often the result

instead of the cause of hypertrophy of the pharyngeal tonsil.

There is an undoubted tendency for hypertrophy of the pharyngeal tonsil to disappear by atrophy about the time of puberty; but an analysis of these cases, of which 9 per cent. were over 16 years of age, shows that this fortunate result is not so common as generally supposed. There appears to be a common impression among laryngologists that unless such growths are removed by surgical measures the condition of the patient is almost sure to go from bad to worse, until the twelfth or fourteenth year, when atrophy usually begins. In twenty-seven of these cases, for various reasons no radical operation has been performed. Eleven of these were treated by applications of chromic acid through the nostril, and 1 find that eight of them were apparently cured by this treatment. In the remaining sixteen cases we have relied entirely upon internal treatment, consisting of the syrup of hydriodic acid or of the iodid of iron, the latter being given when anemia was apparent. I have been unable to obtain the subsequent history in four of these. In 50 per cent. of the twelve whose histories are completed there appears to have been great improvement or complete recovery, apparently as a result of the treatment. Four others were somewhat improved from various causes, and two appeared to have made no gain. This goes to show that although the most brilliant and satisfactory results are obtained by surgical procedures, constitutional remedies are adequate to the removal of the disease in a considerable number of cases, but this should not be made an excuse for allowing the patients with well marked hypertrophy of this gland to go on from year to year in the hope that internal remedies or time may effect the cure; because in the meantime in very many cases, inflammation of the Eustachian tube and middle ear will have caused deafness, or the voice may have become permanently altered, while deprivation of the patient of the amount of oxygen to which he is normally entitled will have stunted his growth, impaired his constitution, and possibly will have left a permanent impress upon his mental faculties from which nothing can ever relieve him.

An analysis of these cases leads to the following conclusions:

Hypertrophy of Luschka's tonsil is comparatively infrequent, occurring in only 2 per cent. of the patients with diseases of the chest, throat and nasal cavities, and probably in not more than one-half of 1 per cent. of all cases.

In this locality the disease is apparently 50 per cent. more frequent in the country than in the city, and it occurs more frequently in girls than in boys.

The disease is observed in 90 per cent. of the cases before the fifteenth year of age and is probably always developed in infancy or early childhood, some cases appearing to be congenital.

Ten per cent. of the cases are apparently hereditary. Sixteen per cent. may be attributed to frequent colds; but in 63 per cent. no etiologic factor can be discovered.

In the great majority of cases the affection is apparently due to the same causes as enlargement of the faucial tonsils, and in 76 per cent. of the cases the faucial tonsils are also hypertrophied.

In a considerable number of cases, amounting to 18 per cent. the general health is materially injured by this affection.

The sense of smell is obtunded or lost in 11 per cent.

Hypertrophy of Luschka's tonsil is a frequent cause of headache, it being present in 27 per cent. of the cases.

It is a frequent cause of deafness, the hearing being affected in one third of the cases. The deafness so caused may be benefited in a large majority (70 per cent.) of cases by operative procedures, 66 per cent. being greatly ameliorated and about half of these being completely cured.

The disease causes much alteration in the voice in about 70 per cent. of the cases. In nearly eight-tenths of these the voice may be greatly improved as the result of treatment.

In about 40 per cent. of the cases there is decided dyspnea, resulting from partial closure of the nasopharynx.

Forty per cent. of these patients have more or less cough, in about one-third of which it is quite severe.

The pharyngeal follicles are enlarged in about one-fourth of all the cases. The nasal cavities are more or less closed by swelling or hypertrophy in 50 per cent. of the cases, and 56 per cent. complain of catarrhal symptoms, but in about nine-tenths of these the symptoms are removed by extirpation of the glandular tissue.

Although deterioration of the general health is not usually complained of, it is found as the result of operation that in many cases great improvement occurs immediately, the patient often gaining 30 per cent. in weight within six months.

THE THROAT APPEARANCES IN MYXŒDEMA.

Read in the Section on Laryngology and Otology, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

BY H. HOLBROOK CURTIS, M.D.

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One year ago a patient presented herself at my office to have her throat examined, in order to undergo treatment for difficulty in speaking distinctly. Her history from my note book was as follows: Age 48, weight 190 pounds. Had five children. Menstruation stopped two years ago. Suddenly became very stout about ten years ago, after a prolonged and exhaustive experience with nursing a sick relative, at the same time undergoing intense mental agitation from other sources. Has had no perspiration for ten years. Water always very distasteful as a drink. Partakes sparingly of tea and coffee. Six years ago legs became glazed and waxy, the small hairs disappearing from same. Some edema of ankles but no pitting on pressure. Had been twice to Carlsbad for jaundice within seven years. Much brown pigmentation on abdomen. Had to stop playing piano some six years ago, because great weakness developed in her arms. Walking became very distasteful. Commenced at this time to become partially deaf. Could only hear in theater in the front rows. Eyes also commenced to appear small by reason of swelling of the lids. Speech became thick every afternoon at 5 o'clock, but without hoarseness. Often disinclined to talk and became sad and morose. Eighteen months ago throat symptoms became more marked. Often in talking "a spasm would choke her." Patient likened it to a cramp of the throat. Far back on the sides of the

tongue a marked stiffness was complained of, and the point seemed thick and difficult to control. The end of her tongue was always "in the way." During this time patient always slept well. Pulse 72, temperature slightly subnormal. Patient was always cold, and very anemic. Ears presented a waxy appearance. More recently the gums were swollen and deficient in nutrition. The lips had recently become difficult to manage easily; they felt very thick and stiff. Was apt to say bore for more, etc. The last two years mental symptoms had commenced to develop. Patient would frequently use the wrong word but always corrected it herself. It was very often a great effort to think quickly. A sudden surprise would make speech almost impossible. Coming into a room where there were strangers would confuse ideas and speech. Upon examination of the nose, the mucous membrane appeared bluish and pale, the turbinate bodies enlarged and very soft, (inflated) making nasal respiration wellnigh impossible. The uvula was very thick, very pale with a yellowish tinge, and the pillars of the fauces were thickened and of the same general hue. The posterior pharyngeal wall was yellowish, with the blood vessels prominent and very red. There was atrophy of the glandular tissues of pharyngeal vault, and also at the base of the tongue. The arytenoids were enlarged but had a fatty yellowish appearance, instead of the bluish edematous look they present in laryngeal phthisis. The interior of the larynx was full and flabby, the tissues intruding into the caliber, while partaking of the yellowish hue of the rest of the membrane of the throat. The false cords seemed especially thickened. The vocal bands were normal, as was also the epiglottis with the exception of the pallor. In October last, the patient suddenly developed edema about her eyes, and the characteristic appearances of myxœdema. At the same time loss of hair under the arms and on the head was commencing. I had not seen the patient for four months, and the difference in appearance was quite striking. There was no albumen found in the urine. Suspecting that it was an undoubted case of myxœdema, I commenced treatment by giving 5 drops of the extract of thyroid gland in glycerin (Gibier) morning and night after meals, increasing the dose to three times a day at the end of a week. Patient was living on a simple diet but not restricted. At the end of two weeks a marked change appeared to manifest itself in the general comfort of the patient, and the spirits commenced to improve; at the expiration of three weeks the tongue began to become more manageable and breathing was easier upon exertion. In six weeks the patient began to lose flesh rapidly, had to get smaller gloves and shoes and commenced to have clothing taken in. The dose meanwhile had been reduced to 5 drops twice a day, and two weeks afterward to 4, at the same interval. At the end of six months there had been a loss of twenty pounds in flesh. The speech is fluent. No disturbance of ideas. Tongue perfectly free; thickening disappeared from the folds of fauces. Uvula, pharynx and larynx healthy. Color of the mucous membrane changed from the yellow waxy look to normal, and there persists but slight injection of the blood vessels. The measurements of one of the extremities taken by Mr. Riker for an elastic stocking before and after taking the thyroid extract show the following differences, and may be of interest:

Ankle, 9¼; 8½. Calf, 16; 14½. Knee, 15¼; 14¾. Thigh, 21½; 19. In the corset measure the hips appear to have decreased five inches, the waist three, and the bust four inches.

The above case is interesting in that it presented itself to a laryngologist. The difficulty with enunciation antedated the loss of hair and brittle finger nails by a year. Absence of albumen in the urine, no previous loss of hair, and no facial edema accounted for a late diagnosis of the true condition. However, to-day the patient is restored to apparent health, looks younger by ten years, is as bright and cheerful as possible, and thoroughly enjoying life.

NOTE.—Patient is taking 3 drops of thyroid extract twice daily, and is in excellent health, Sept. 22, 1894.

THEORIES AND FACTS CONCERNING DEFLECTION OF THE NASAL SEPTUM.

Read in the Section on Laryngology and Otology, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

BY W. A. MARTIN, M.D.

SAN FRANCISCO, CAL.

That the major portion of nasal troubles is caused by the deviation of the septum, I think will be admitted by those who have devoted much time to the treatment of nasal troubles and have investigated the causes of these troubles. As a nation the Americans may be said to be universally afflicted with deflected septa, and to this cause alone we may safely attribute 75 per cent. of the nasal affections that are so frequent among them. I have been unable to find any extensive statistics concerning this trouble in the United States, but from my own observation I will venture to place the percentage of deviated septa as high as 90 per cent.

The only reliable statistics of any extent furnished on this subject are those of Mackenzie among the English and of Zuckerkandl among the Austrians. The first taken from the skulls in the museum of the College of Physicians and Surgeons in London and the latter principally from the cadaver. Other statistics have been published by Semeleder, Theile, Allen, Potiquet and others, but all in smaller numbers than the first mentioned. In this country, statistics so far as I have been able to find, have been limited to those who have applied for the treatment of some nasal trouble and consequently are of no value in determining the frequency of its occurrence, as there are untold numbers to whom it causes no inconvenience and a large proportion of the population who suffer in silence and never consult the specialist.

The statistics of Mackenzie show that in 2,152 skulls examined, 76.9 per cent. of the septa were more or less deflected. Those of Thiele, Semeleder and others taken in Germany differ only 1 or 2 per cent. from Mackenzie. Statistics of Zuckerkandl show that in 370 skulls examined in Vienna, 53.2 per cent. of the septa were deflected.

The most diverse theories have been evolved to account for this frequent condition of the septum, some of them most amusing when one considers the source from which they emanate. A few of the many I will quote are:

"Blowing the nose habitually with the same hand. Habit of sleeping with the same side of the face to the pillow. Habit of putting finger in one side of the

nose. Action of astringents, rickets, syphilis. These causes I simply mention and do not consider it necessary to give them any further thought as causal factors in producing deflections of the septum. The following causes are the ones accepted by the leading specialists of to-day: Traumatism, over-development of the septum, obstruction in one or both nostrils, heredity, evolutionary and devolutionary changes." The first mentioned of these causes, viz: Traumatism is the one accepted by Bosworth, who seeks to defend it in his text-book, "Diseases of the Nose and Throat," as being the most frequent source of the trouble.

It is remarkable how readily a patient will recall some cause for the deformity, when informed that such a condition exists, in the shape of a blow on the nose fifteen years ago; a tumble down stairs, a frequent cause given by mothers is a blow from the baby's head, and numerous other causes are assigned too numerous to mention, but with which you are all familiar. It is peculiar how sensitive individuals are concerning any deformity which is congenital, or for the source of which they have no natural or physical cause to offer. They seem to consider it a blight cast on their lives by nature, but if they can offer a cause in the shape of some physical force, the defect is regarded as of little consequence or even as an insignia of glory, showing the prowess of the individual or the martyrdom through which he has passed. Now deformities of the nose are no exception to this rule. There is no feature about which people are so sensitive as the nose; reference to the shape will give offense, and many individuals who are perfectly satisfied with the external appearance of that organ will doubt the ability of the specialist, who informs him that the interior is twisted and contorted. He immediately recalls some manufactured or almost forgotten reason for the existing condition, but the patient is willing to retract somewhat after being informed that his nose does not differ materially from the general average.

Bosworth informs us that "an injury to the nose need not necessarily give rise to the immediate development of a notable deformity as in fracture, but it may set up a low grade of morbid action which going on through a number of years will develop a condition by which the normal function of the nose is seriously hampered."

Why this low grade of inflammation should continue for years, without causing any inconvenience excepting the resultant deformity and having caused the deformity should cease is not apparent. One might give it some little consideration if we had only nasal spines and crista to deal with, but we know these are dependent on a curvature of the septum, and that condition would have to be first accounted for and could not be accounted for in this way. The frequency with which we meet with this deformity is the strongest argument against the theory of trauma. Certainly 90 per cent. of Americans and 75 per cent. of the European population have not suffered sufficient injury to their noses to produce this almost universal defect in this particular portion of their anatomy.

In a neat little brochure, Mr. Mayo-Collier distributed broadcast throughout the land his idea of the real cause of this deformity. I quote here the introductory notice: "The ready and full acceptance of my views on the causation of deflections of the nasal septum by the very competent tribunal to which I submitted them has lent some warrant for my placing this small monograph before the profession."

The tribunal referred to is the British Laryngological and Rhinological Society. Certainly, if such a competent tribunal has passed favorable judgment on Mr. Mayo-Collier's views I can not ignore them.

The sum and substance of Mr. Collier's conclusions is, that the deflection of the septum is caused by a stenosis of one or both nostrils and the resultant atmospheric pressure acting on the unoccluded side, thus pressing the septum toward the opposite side. The theory is pretty, but it does not work in practice. In the first place most specialists agree that the septum is seldom if ever deflected in the posterior third, and that the curvature is almost exclusively confined to the anterior two-thirds. If the deflection is the result of atmospheric pressure, the posterior third would certainly be more exposed to such pressure than any other portion of the septum. In every case of stenosis, where we find a curvature in the middle or anterior third, the posterior third would be exposed to the same or greater pressure than the part affected.

One of the favored points of deflection is in the cartilage. Jurasz asserts itis always there; now certainly a stenosis never occurs anteriorly to the cartilage; it may occur as far forward as the cartilage, but then this would not furnish the necessary condition for a deviation that is confined mostly to that portion.

Artificial stenosis, as in the case of foreign bodies retained in the nose, furnish conditions most favorable for the production of a deflection if Mr. Collier's views are correct. Since reading his monograph I have had five such cases under treatment where the foreign bodies had been *in situ*, periods ranging from three months to five years; in each and all of these cases, the deflection was toward the unoccluded side. The cases were all children of from 3 to 9 years of age; a time of life when the septum is most pliable and when it would be most easily affected by such pressure.

Mr. Collier lightly disposes of polypi in "one breath." Certainly they deserve some consideration as one of the causes of stenosis. At the time of writing I have under my treatment a boy 9 years of age, who has had the right nostril obstructed for a year or more. The entire right side of the face is undeveloped. The septum, however, is very little if at all deviated.

Because 80 per cent. of savages and aborigines have symmetrically placed septa, Mr. Collier reasons that civilized people are more prone to colds and injuries, etc., that produce stenosis, which leads ultimately to the deflection of the septum. A great many scientists hastily conclude, that because civilized people are subject to affections from which the uncivilized are free, that the manner of living must necessarily be the cause. Civilization and refinement I admit are accountable for some of the minor ills from which mankind suffer, but there are great laws that control the human race and which are unaffected by the manner of living, and certainly there is no law that produces a deformity that has such serious consequences as the deformity under consideration, that does not have some more reasonable explanation that it is simply a result of civilization.

Certainly, we do not live under any more unfavor-

able conditions than the Chinese, and again take the statistics of the American negro as stated by Allen. Here is a race living in the same country and climate and under more unfavorable conditions than the majority of Americans, and still the statistics show that only about 20 per cent. are affected with deviation of the septum.

As a "liqueur" to the feast, Mr. Collier quotes the results of Ziems' experiments on animals as proof of the efficacy of the great cause for which he contends. No one attempts to dispute the effect of stenosis of long standing, but unfortunately Mr. Collier has mistaken the cause as an effect. The most frequent and most permanent form of nasal stenosis is the deviation of the nasal septum and it is secondary to no other form of stenosis; it is the form that produces asthenopia, and assymetry of the face.

Over-development of the septum as first mentioned by Morgagni and later by Chassaignac, and accepted as a satisfactory explanation of the cause of this deformity by numerous specialists of to-day is decidedly unscientific. If there is a tendency to over-growth of the nasal septum we must have an explanation of the cause of this over-growth.

We are willing to admit that in the case of a deflected septum there is a profligacy of Nature in supplying such an abundance of material, but it is the wherefore we are seeking and not the fact that it is there, which is palpable to every observer.

Heredity as a cause is equally unscientific. It is no cause; it is merely a law that perpetuates the deformity. I can relate a circumstance where three brothers and one sister were all affected with exactly the same form of deviation. The external appearance of the noses was so much alike that one could call any of them by name, having been introduced to one of the four. It was a family nose inherited from their father. Heredity explains it thus far; are we to be satisfied with the explanation, or shall we seek farther and find that it descended from one generation to the other until the original of this type of the family nose is found?

Evolutionary or devolutionary changes. Here is the field in which our researches are most likely to be rewarded. There have been several searchers in this field working mainly in the same direction. Among the more prominent are Potiquet, Bendelack Hewetsen and Zuckerkandl. They commenced with the same theory, namely: That the condition was the result of a change from prognathism to orthognathism. Zuckerkandl merely suggests it without offering any particular reasons.

The paper read by Bendelack Hewetsen a few months later than the monograph read by Mr. Collier, shows that there was at least one member of the British Laryngological and Rhinological Society who did not accept the latter gentleman's theory as absolutely conclusive. Hewetsen in his paper discussed "The Relations between the Various Forms of Nasal Stenosis and Deafness." He found that nasal stenosis was associated with a narrowness of the jaw, crowding of the teeth and an elevation of the palate. This narrowing of the modern face, "the ultra refined face', as he terms it, he attributes to the fact that civilized men partook habitually of a much softer food than that which fell to the lot of savage man. He had examined large numbers of natives of the Zanzibar coast, of Hindoos, and lastly large numbers of Arabs in Morocco. In none of these people did he find any nasal stenosis. It is to be presumed that there being no stenosis in these people examined, that the septum was quite or nearly symmetrically placed. Mr. Lenox Brown very correctly observed in the discussion of the paper that "the diet of lentils and curries which Hewetsen said formed the principal food of the people examined, did not seem as difficult of mastication as the average specimen of meat, which the modern European was called upon to masticate. The Mongolians certainly subsist on softer food than the Europeans.

Dr. Potiquet gave the result of his researches on this subject to the Paris Society of Laryngology, Otology and Rhinology in July, 1892. His researches were conducted on the 400 skulls in the museum of the amphitheater of the hospitals. I quote from a report in the *Journal of Laryngology:* "His conclusions are that in the Parisian, the osseous nasal septum tends to incurve so much the more, as the movement of rotation of the pre-maxillary around the point of junction, of the posterior extremity of the vomer with the body of the sphenoid taken as a center, is more marked. This conclusion may be regarded as a verification applied to a very limited group, of a law common to the whole series of primates, to-wit: That the nasal septum has so much the greater chance of lateral incurvement as the axis of the face is itself the more inflected in its antero-posterior direction. As this axis is more and more inflected as one rises from the anthropoid to the European male, the septum tends to incurve laterally more and more as one follows this ascending series. Lateral curvature of the septum therefore appears to be an evolutionary phenomenon related to the degree of antero-posterior inflection of the axis of the face." Farthre along in the same article the writer remarks: "It would not be extravagant to say that a man has only exceptionally the septum which belongs to him."

It is difficult to argue this point without fuller statistics at one's disposal. For my own part, however, I do not believe that the rotation of the axis of the face in the European male is greater than in the case of the Hindoo and Arab, who Hewetsen claims are seldom if ever troubled with stenosis, but Potiquet says: "It is a law applied to a very limited group," and I judge that in this way he excludes all except the Europeans and their immediate descendants, but Nature's laws are not elective. If this condition is the result of evolutionary changes pure and simple, a change produced simply by the progressive or retrogressive state of man to accommodate him to a new condition of things, then it is the only instance I have been able to find where there has been such a marked assymetry of development as to impair the usefulness of the organ. We have instances where parts have atrophied when they were of no more use or left in disuse, but as far as I am aware none where there has been a hypertrophy.

It is possible that the nose, as an organ of sense, has not the magnified function that it had when man was in a less civilized state, but the peculiar shapes that characterize different races are probably not so much a result of the increased or impaired functions of that organ as a result of sexual selection. The nose, one might say, is the center of attractiveness in the determination of beauty in the eyes of most races. This being the case it is not strange that in the development of the different races we find in

their perfect development a type of nose that varies very little in the different individuals of the same race.

There is no feature or characteristic of a race that is so typical as the nose. The features of the purer races as the Mongolian, African, or Polynesian are so much alike that it is with the greatest difficulty that even the most skilled physiognomists are enabled to distinguish between individuals without a close acquaintance with them. This fact is aptly demonstrated by the difficulty we have had in finding some positive way of excluding our Mongolian brother from the confines of our country.

From the statistics at our disposal of Mackenzie, Zuckerkandl, Adams, Hewetsen and others, we find that the nasal septum of these different races, namely, Chinese, Japanese, Malay, Hindoo, Arab, American Indian and Polynesian varies as little in shape as does the external appearance of the nose.

Among the Europeans and their immediate descendants we find that there is no characteristic type of nose. In Paris, in the classification they have adopted for the recognition of criminals, they distinguish nine distinct types of noses and with subdivisions have as many as twenty-seven. These distinctions are from—the outline of the nose, convex, rectilinear, or concave—base of nose, ascending, straight or descending; these in the different combinations make nine varieties, and either of the combinations may be either thin, medium or broad. The interior probably offers greater variety than the exterior in so far as the septum is concerned. There are distinct types of noses, however, preserved in limited areas of Europe that were originally typical of a grand subdivision of the Caucasian race, as for instance the Roman, the Grecian, the Semitic; and again the other subdivisions as the Teutonic, Sclavonic and other tribes that at one time had distinctive noses. The same law that produced the Mongolian or African type was effective in shaping the nose of the Roman, the Greek or the Teuton. It was the outcome of centuries of exclusiveness, and I venture to make the assertion that these people were no more troubled with the deflection of septum and the resulting stenosis than the Mongolian and other purer races of to-day. Their noses were the outcome of natural evolutionary changes.

How about the European population of to-day? The modern European and the immediate descendant to a greater extent represents a composite anatomy. The work of centuries in building up and fashioning tribes of distinctive types of features has been undone in a comparatively short period by the commingling and mixture of these distinct tribes. The commingling has not been limited to the people of the Caucasian races, but other races of a distinctive type, as the Mongolian and African, the American aborigines and others equally as distinct, have all united in lending characteristics to the modern European and American. I need not enter into the genesis of the European. It is a matter of history and accessible to all. The mixture, the result of conquest and slavery in ancient times and in later years of emigration and intermarriage between persons of different nationalities has equalized to a greater or less extent the distinctive type of features.

If we could examine the skulls of the purer ancient types as the Roman, the Grecian or the Semitic, I dare say we should find the deflected septum as rare among them as among the purer races of to-day. If we should take the septum from the skull of one of these people and attempt to fit it into a Chinese or negro skull we would assuredly find a misfit, but this is the condition imposed on Nature by the mixture of races and a condition that is not likely to be modified for centuries to come, as the evolutionary changes necessary for Nature to accommodate herself to this innovation will be slow; as all evolutionary changes are.

We might accept it as a law that the straight or symmetrical septum is distinctive of a pure race, while the deviated septum is characteristic of a mixed race.

Such being the case, where would we expect to meet with this deformity most frequently? I think that you will all agree that the people of the United States are the greatest sufferers in this respect. In England, Mackenzie's statistics show that 76.9 per cent. of the population suffer with this deformity. If we could have statistics from Russia where there has been less of a mixture of races than in other European countries we would probably find the straight septum more the rule. Zuckerkandl's statistics show only 53.9 per cent., as we would naturally expect, as the farther east we travel the nearer we approach to original racial types. In the purer races as the negro and the Mongolian, we find the same shape to the nose in the child that we find in the adult, and other things equal we see no variation from the original type. The child resembles both its father and its mother, and in fact the whole race as far as features are concerned. In the European and American, however, the case is quite different; here there is apt to be a reversion to ancestral type. The offspring may resemble any progenitor as far back as its simian ancestors and excite no particular comment. An American with a Roman nose who takes for a spouse a woman with a *retroussé* nose may find in his several children as many different shaped noses. The only fact he can safely predict is that one and all will have a deflected septum. In a well regulated Roman, Grecian or Semitic family I venture to remark that if any of the children had had a *retroussé* nose that there would have been an investigation set afoot.

That deflected septa are as frequent as 20 per cent. in non-European and non-American people is readily accounted for by the fact that even in the most isolated races there is a certain percentage of mixture. There are few people whom we have the opportunity of examining among whom the whites have not mixed. Missionaries, adventurers, travelers and shipwrecked persons have gained a footing in even the remotest corners of the earth and their imprint is found stamped in the nasal septa of the inhabitants.

Another important factor must not be overlooked as accounting for a certain percentage of the deformed septa both in the civilized and uncivilized races, that is owing also to a disparity in the development of the cranial and facial bones. We find not infrequently that the cranium is small in proportion to the development of the facial bones, owing to the too early ossification of the cranial sutures. This need not be sufficient to bring the individual within the limits of cretinism, but sufficient to be an important factor in causing a deformity of the septum. The most deformed septa I have ever seen were in

individuals belonging to this class. Three cases I recall where the individuals escaped only with their reason. Two had the peculiar facial expression of those affected with pharyngeal adenoids, but they were in no way improved either as to facial expression or as to mental condition by the removal of septal spines, crests and enlarged turbinates which furnished free breathing room through the nostrils, thus proving rather conclusively to my mind that the disparity in development in these cases was the cause of the nasal stenosis, and that the latter condition had very little effect on the mental condition; as one might infer on first thought.

The deviation of the septum resulting from anomalies in development occurs during the time of the second dentition from the seventh to the fourteenth year; it may become more pronounced from then up to the eighteenth or twentieth year when ossification in the skull is completed. It rarely if ever occurs before the fifth and *never* after the twentieth year, unless from pressure or traumatic causes. It occurs during the years of greatest development of the brain, and consequently with the greatest expansion of the cranial and facial bones. Whether during this period the space between the ethmoid and the superior maxillary is abridged, or whether there is a greater development of the septum than the space admits, or whether both these factors come into play, I am not prepared to state. Up to the time of the second dentition there is a similarity in the facial appearance of European and American children, but at this time there commences a variance in the nasal shapes that does not occur in the children of unmixed races. The mixed races seem to be affected by other anomalies in development of the facial bones that occur principally during the same period, namely, the narrow and shortened jaws and the high arched palate, the latter more apparent than real, as the nearer approach of the alveolar processes makes the palatal arch seemingly higher. These anomalies all seem to be more clearly explained by the blending of different racial types than by evolutionary or devolutionary changes from a prognathous to an orthognathous type. The whole matter is one of theory, but the weight of the evidence is in favor of the former, because we know it has been and is occurring continually while the latter supposition is purely theoretical.

FIBRO-LIPOMA OF THE PHARYNX.

Read in the Section on Laryngology and Otology at the Forty-fifth Annual Meeting of the American Medical Association held at San Francisco, June 5-8, 1894.

BY JOHN O. ROE, M.D.

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REPORT OF CASE.

Benign tumors of the oro-pharynx, involving the posterior wall alone, are of comparatively infrequent occurrence. Judging from the cases reported, and from my own experience, lipomatous tumors located in this region are the rarest of all. The following exceedingly interesting case, that of a large fibro-lipoma of the pharynx came under my observation last January, and is quite worthy of record:

Mrs. R., 49 years of age, began nine months before I saw her to experience a sensation of roughness and fullness in her throat, attended with difficulty in swallowing, and associated with pain extending to both ears. While remaining quiet she experienced no special discomfort in her throat, but on attempting to swallow, the sensation of constriction about the throat and the pain in her ears would be frequently quite severe. This difficulty in swallowing began with the taking of solids, particularly in large pieces, and gradually increased until the time she came under my observation, when she could swallow liquids only and these only in small quantities. Owing to this great difficulty in swallowing she had become emaciated, and was rapidly losing flesh and strength. An examination of her throat revealed a large swelling projecting forward from the posterior pharyngeal wall, nearly filling the pharynx. It extended vertically from a point opposite the base of the uvula to a point opposite the arytenoid cartilages, and laterally from one posterior pillar to the other. This enlargement was somewhat ovoid in shape, the larger portion being above, and covered with mucous membrane, indicating the existence of a growth located behind the pharyngeal wall. The mucous membrane covering the swelling was somewhat pale from the pressure of the growth beneath, but otherwise presenting no unusual appearance; and there was no evidence of previous ulceration or disease of any nature.

On palpation, this swelling had a soft doughy feeling, similar to that of an abscess, but the history and appearance gave no suspicion that this swelling was of that character. There was no history of a specific disease, and the patient had met with no injury to the pharynx of which she was aware. Thinking, perhaps, the swelling in her throat might be a collection of enlarged post-pharyngeal lymphatics, due to some unknown specific trouble, I placed her on vigorous specific treatment for a time. This treatment, however, had no effect upon the swelling in her throat, therefore, without doubt, the swelling was not of a specific nature. The growth to all appearance was a lipoma, and I accordingly advised its removal, which was done the following day. Local anesthesia with cocain injected and applied to the surface was quite sufficient to relieve the pain. An incision about an inch and a half long was made along the median line down to the tumor, which lay encysted just beneath the submucous connective tissue. I then endeavored with a thin curved elevator to separate the tissues from the growth and thereby to enucleate it. This I succeeded but partly in doing and, owing to the fact that the thin portion of the anterior wall of the growth became ruptured, a portion of the contents escaped. This was preserved for further examination and found to be composed of fat. In conjunction with this substance other tissue of a firm character was found, which was afterward shown on examination to be fibrous connective tissue.

It was with some difficulty that the growth was separated from the surrounding connective tissue, and along the posterior surface it was attached and firmly adherent to the pre-vertebral fibrous tissue. The attachment of the growth extended throughout the posterior surface from a point opposite the base of the uvula to a point opposite the arytenoid cartilages, being the area that the growth occupied externally as indicated during the first examination. It was with considerable difficulty that this attachment was removed from the vertebræ, requiring careful dissection. The removal of the growth was attended with very little hemorrhage, no vessels requiring ligation, and capillary oozing soon subsided.

The whole cavity, after being thoroughly cleansed with a solution of bichlorid of mercury (1 to 5000) was completely packed with iodoform gauze, not only to render the parts thoroughly aseptic, but also to prevent food from entering the sac. Notwithstanding the fact that the sac was as completely filled with the iodoform gauze as it had previously been with the growth, the patient could swallow much more easily than before the operation. She was placed upon sterilized milk diet which was maintained until the parts had healed.

The cavity left by the removal of the growth was allowed to fill with granulation, requiring about two weeks. At one spot there was a portion of the attachment of the growth to the posterior wall that had not been completely removed; this was destroyed by the galvano-cautery. At the end of three weeks the surface was completely healed, leaving only a slight scar along the median line, and since that time there has been no evidence of any return of the growth.

This growth was evidently a combination of a lipoma-molle and a fibro-lipoma, in which the fatty portion had become liquified by the heat of the body and by the motion and pressure to which it was subjected. A case similar to this one, in nearly all par-

ticulars, is reported by Taylor[1]. In Taylor's case, the tumor was mistaken for a post-pharyngeal abscess and incised. It passed down so far behind and projected so far on each side of the larynx as to cause dysphagia and dyspnea from pressure on the larynx. Tracheotomy gave no relief. In the case I have described the patient suffered from dyspnea, although not from pressure upon the larynx but from partial obstruction of the larynx, and also of the pharynx by the growth interfering with the ingress of air.

DIPHTHERITIC CRICOID PERICHONDRITIS AND NECROSIS.

Read in the Section on Laryngology and Otology, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

BY PROFESSOR RAMON DE LA SOTA Y LASTRA, M.D.
SEVILLE.

The idiopathic inflammation of the laryngeal cartilages is considered a rare affection by the greater part of the authors; who instead affirm that the laryngeal perichondritis and chondritis, as manifestations of certain constitutional illnesses, pocken, typhoid fever, syphilis, lupus, cancer, tuberculosis and mercurial intoxication, are sicknesses which are observed frequently. I think that the idiopathic perichondritis appears many or more times than the symptomatic, and if we do not take notice of it with more attention, it is because it terminates generally by resolution, and passes without being noticed, and we believe it to be an inflammation limited to the mucous membrane, and to the immediately sub-mucous tissue, which penetrates into the same cartilage. For which it is called intense inflammation of the arytenoid mucous membrane, that which not only invades the immediately submucous tissue, but that which reaches the crico-arytenoid articulation, beginning in many cases the phlogosis by the same articular surfaces: after that it goes on to attack the mucous membrane, this being the consecutive inflammation, and the arthritis the primitive one.

Among the causes of the consecutive perichondritis only two authors notice the diphtheria, Gottstein and Bosworth; the first saying, speaking from the etiology of the perichondritis, that this "can appear as joined to an ulcerative process already existent of a diphtheritic character; but without stating if his affirmation is purely rational or deducted from the experience; and the second cites the diphtheria as a cause of the inflammation of the laryngeal cartilages, because one of the 33 cases of perichondritis observed by him was produced by the diphtheria. Volume II. of the *Journal of Laryngology*, pages 366 and 367 contains an extract of a case published by Jacuborvitsch, from St. Petersburg, in the *Archives für Kinderheilk., Vol. 10, No. 1:* "It was a child a year and three months old, which suffered the scarlate. The diphtheria of the throat appeared several weeks after, and the diphtheritic membranes persisted on the tonsils and upon the pharyngeal vault during two months. There was also increasing stenotic respiration. Tracheotomy was performed, and the child died. In the necropsy was discovered perichondritis of the cricoid. The pharyngeal mucous membrane was covered with pus and membranes."

[1] Lancet, London, 1876, Vol. II, p. 685.

The *Internationales Centralblatt für Laryngologie*, published at Berlin from 1889 till 1890, page 189, copies from the *British Medical Journal*, Sept. 22, 1888, a case of the necrotic perichondritis observed in a pig by Proctor S. Hutchinson, of London: "The animal suffered from symptoms, which resembled those of the croup. It was not founded on motives to diagnose the acute illness. The animal died, and necropsy was performed. It was found with an inflammation, which was extended around the cricoid cartilage with partial necrosis of the same. A very great part of this cartilage fell down, and only remained a little part of the lower and anterior portion. The suppuration was insignificant. The necrosed piece was buried in a tissue of soft granulations. At last existed a general edema of the larynx, which explained the dyspnea."

This is all that I could find in the medical literature, which says anything with regard to the appearance of laryngeal perichondritis produced by the diphtheria; not even Knight, (who, in the eighth annual meeting of the American Laryngological Association, held at Philadelphia in May, 1886, with motive of a case of perichondritis, studied the causes of this affection in a splendid work) mentions diphtheria.

I have recently had occasion of observing the fatal consequences of this complication of diphtheria (which I think is not very rare) and by it have been many deaths attributed to other different causes. But before making more reflections, I will refer to the history of an interesting case for more than one reason:

February 4, 1894, I was called in consultation by the well-known physician, Reyero, on a child of 23 months, whom he found with all the symptoms of diphtheritic croup, and he recommended me to take the necessary instruments in case of necessity of performing the intubation, as he supposed.

At 8 o'clock in the evening we assembled at the house of the little invalid, who six or eight days before had shown symptoms of the bronchial catarrh, according to the statement of the parents; who had not been alarmed and had not called in the physician until that same afternoon, because they did not think it was fever, and notwithstanding that he did not like to eat, because he felt a pain in swallowing, coughed frequently, was hoarse and was unable to get up, but breathed well, they had confined themselves to have him protected from the cold, poulticed in the neck, and giving him some warm milk. They gave him also two emetics of ipecacuanha, one every second day; the latter one that same day; and notwithstanding the two operated well, as the illness not only remained, but increased until the difficulty of breathing inspired the parents with some dread, they resolved to call the physician.

The state in which Dr. Reyero found the little invalid five hours before the consultation, was a little more or less the same in which we found him when we joined for the consultation, and believing the child to be in a very grave condition, Dr. Reyero had the consultation immediately. I noticed that it was a larger child than its age seemed to warrant, and seemingly vigorous. He slept in his mother's arms, with difficulty breathing noisily in the inspiration and in the expiration; the forehead was covered with a cold and viscous sweat, a livid line existed around the eyes and the mouth; the cheeks were very high

colored, but the ears, the lower part of the face and the nose were pale; the wings of these latter moved when he breathed; the supra and infra-clavicular, and supra-external fossæ, and the epigastrium fell down profoundly during the inspiration; the sclani, sterno-cleido-mastoides, pectoral and abdominal muscles concurred with their contractions to introduce the greatest possible quantity of air in the lungs. The respiration was shallow and hasty (38 every minute); the pulse was feeble and quick (112 every minute); the skin of the extremities was cold; the nails were blue, and the axillar temperature arrived to 38.9 degrees. Examining the mouth, appeared a white and large false membrane, which covered the soft palate, the uvula, the two pillars and the two tonsils. The rest of the mucous membrane of the palate and the pharynx was very red and friable, and to the least light friction bled. From the excoriated nose flowed a bloody ichor, but the false membranes were not seen there. At auscultation we noted a noise of large bubbles as much in the anterior part as in the posterior part of the chest. Our diagnosis was pharyngeal and laryngeal diphtheria in the asphyxia period, and complicated with intense and extensive bronchitis.

We made a very dangerous prognostic, not only by the advanced and extensive suffering, but because the grippe was existing in Seville at that time. We feared that the bronchial catarrh would assume an infective character, if by chance it had not yet assumed it. Notwithstanding, we agreed that it was necessary to perform the intubation immediately, in order to free the child from the imminent asphyxia; to separate the false membrane with a ball of very firm sterilized cotton; to irrigate the throat and the nose with a solution of carbolic acid (1 to 100); to touch the sores of the diphtheritic plaques with another ball of sterilized cotton moistened in a solution of the absolute phenol in the sulpho-vicinat of soda (20 to 100); these three latter were to be done every hour. The following mixture:

℞. Hydrargyri bichlorid .01 gram.
Tinct. ferri chloridi, 8 cc.,
Potassi chloratis, 4 gram.
Glicer., 60 cc.,
Aqua, 120 cc.,

was given, a teaspoonful every hour, and we advised that nourishment should be often taken, taking care to place the invalid with his head downwards, whenever he took any fluid. Moreover the bed was surrounded with sheets, making like a tent, and burning within the sheet two grams of calomelanos every four hours.

All was performed as we ordered. The intubation was made very easily and promptly, putting the tube, No. 2, of the scale of O'Dwyer, corresponding to the two years which the child had. But at the first fit of coughing after having placed the tube, this was expelled with force and to a great distance; which showed me the necessity of placing another and larger tube, and without difficulty I put that of the No. 3, and the little invalid remained breathing, coughing and discharging mucosities by the tube with great facility, and without showing any grievous symptoms.

The first night he was very agitated, the tracheal râle was heard outside the room, and the temperature was raised to 39.8 degrees. The succeeding days at 9 o'clock in the morning the fever went down sufficiently, for it descended to 38 degrees, but it rose again during the night, the child did not wish to eat, it was sorrowful and did not speak. Notwithstanding, the respiration was performed easily, and the false membranes were every time reproduced with less vigor.

On the sixth day I determined to take the tube away, that I had hesitated to take away before, watching the bulk of the introduced instrument. The child passed the day better than the anterior days; he had sat down at table with his parents and had wished to eat what he saw, though he suffered much in swallowing it; the diphtheritic sores of the throat had totally disappeared, but the respiration (a condition that should not be forgotten, by what happened after) was noisy, notwithstanding that it was performed easily, as the tracheal rattle and the axillar temperature was raised to 38.7 degrees. The extraction of the tube was performed quickly and well, but in the moment that it was taken away from the larynx, and when I believed that by its friction against the posterior laryngeal wall, the violent fits of cough commenced which expelled the materials lodged in the trachea, I observed with great disgust that they were carried down by the current of inspirated air, and afterward the child began to suffer the peculiar paroxysm, precursor to the asphyxia. I expected that this dyspnea would disappear by degrees, as I have had occasion to observe it in other operated persons, and examined the tube, which was completely obstructed, and saw a piece of the macerated false membrane formed a cap or a capsule in the inferior extremity of the instrument. I introduced the obturator of the tube and there came out a dense mass in shape of a cylinder, a veritable mold of the lumen of the tube, composed of detritus of false membrane, by semi-coagulated mucus and probably by some food. I called my learned colleague's attention to all, and he asked me from what time this material had filled the tube. I could not tell him; by the consistency of the plug, which did not break when it fell to the floor, I ventured to say that the tube had been obstructed from twenty-four to forty-eight hours.

When I was occupied in these examinations the state of the child grew rapidly worse. I observed it by the noise which the air made in passing the glottis, and my friend Reyero advised me of it, at first with tranquillity and the second time with exigency, because the little fellow was suffocating. I was already trying to place a thread in the tube in order to repeat the intubation, but the moisture of the instrument and of my hands made it very difficult to slip the delicate thread of silk in the small hole of the tube. I could not do it. Reyero was alarmed, and with reason, because the face of the child was violet, and he told me again of the danger; and for that reason I left the silk, because there was not a moment to lose, and, placing my confidence in God, without silk and without gag, I performed the intubation, doing it with great facility and at the first attempt, and beginning immediately the artificial respiration; because the child could not get breath and all its skin was covered with a cold and viscous perspiration, and the muscles completely relaxed. We obtained in three or four minutes of the artificial respiration the natural one well restored. The child slept after the danger which he had run, and we were smiling after having been in such great anxiety.

We attributed what happened to the aggregation upon the wing of the trachea of layers of the false membranes and of a great quantity of semi-concrete muco-pus, and we decided to leave the tube for two days more, holding same medication, but stopping the painting with the solution of phenol, because the diphtheritic sores had disappeared.

Thirty-eight hours were passed without any accident, the temperature had been normal since the following day; the same in the morning and evening. The child wished to eat, but the deglutition was always painful, the respiration was accomplished without noise and suddenly at a fit of coughing the tube was expelled. I was called and went with the haste which was natural after what happened two days before, and when I arrived at the house of the invalid, which is very far from mine, I had the consolation of finding the child respiring, though with great pain. I was surprised that the tube was expelled so soon, because it was much larger than usually used in a child of that age. The dyspnea reappeared the moment the tube was extracted, and increased until nearly asphyxiated, although the lumen of the instrument was clean and we could not hear the tracheal rattle, but we could hear the whistle which the air made in the glottis, as much in the inspiration as in the expiration. I performed intubation for the third or fourth time, and all remained as if nothing had happened; but I was very displeased, because I thought that it was caused by a post-diphtheritic paralysis of the posterior crico-arytenoid muscles, and so I told Dr. Reyero, who coincided with me in the diagnosis and also in the prognosis; we then left the house sorrowfully thinking of the paralysis in such little muscles where perhaps it had never been before. Knowing how rebellious and long are these fits of paralysis, we did not dare to say how long we should have to leave the tube in the larynx, and the inconveniences that were present by the paralyzation of the dilating muscles of the glottis. Notwithstanding, as that day the dyspnea had not been as early and as severe as two days before, I hoped that the tube inciting the part would determine the contraction of the postici muscles. In thinking of these things we arranged for a new consultation in two days, in order to take away the tube, besides he did not expel it as before, and resolving to carry one of the shortest tubes and of a great diameter to substitute for that placed, in case it were necessary.

On these two days nothing happened worthy of mention, and to the disgust of the parents I took away the tube; and the scene of the latter day was repeated. I then placed the third tube of the short ones, and left the child all right.

Two more days were passed with tranquillity; the only unpleasant phenomenon was the pain in the larynx sustained, in my opinion, by the long permanency of the tube in the larynx; and so great was my desire of taking away the instrument, that I extracted it in the hope of finishing my task that evening; but if there was a moment in which it seemed that the respiration was performed easily, that passed, and the peculiar respiratory whistle was repeated. With disgust I listened to it; but I did not wish to repeat the operation. Reyero looked at me and said: "I do not wish the child to remain like this; I have very much to do and can not lose the time. I beg you to repeat the intubation." He was right, and I obeyed. The child resisted all our maneuvers; thus as soon as he saw the gag he closed the teeth, and there was no human force that could separate his jaws; we vexed and annoyed him every time that the gag was applied. On this occasion the maneuver was something more tedious than the anterior ones; and a tooth was knocked out; the little invalid shook the head in the moment of nausea, so notwithstanding our efforts to subdue him I was only able to place the gag in an imperfect manner. So I performed; but when I put my finger upon the head of the tube in order to withdraw the obturator, I observed that the larynx fell down until I could not touch it with my finger. I stopped in suspense. What had happened? Where had the tube fallen down? That tube of which the diameter was triple, that which corresponded to the age of the child? To the subglottic part? To the trachea? Impossible, because the shortest tube placed by Brothers in the larynx of the dead body of a child could not be made to go down to the trachea, far less could this large tube fall down so small a larynx and with so light an effort. Guided by this reasoning I took away the thread. Notwithstanding so nervous a person, as I, can not rest under the power of the imagination without suffering dreadfully, and for that reason I decided to take away the tube. I introduced the extractor and putting it well down I managed to seize the tube and take it away. I had nothing to dread, but it was necessary to repeat the operation, and as the child had the mouth open, and recollecting what I had done a few days before in very exacting circumstances, I wished to repeat the operation; that is, I wished to introduce the tube without putting in it the thread of silk; but the tube, large and short, was separated from the obturator, and before I could seize it, the tube fell down the esophagus lengthwise, and penetrated into the stomach. A similar contrariety bothered me very much, though I knew already that the tube would sooner or later be expelled by the ano, and in the same instant I seized another tube of the largest and shortest, put in it the silk, and placed it in the larynx. The tube was larger than that which had been slipped by the esophagus, and, notwithstanding, I felt it slip under my finger, just as the other one had done when it fell down, but yet I did not trouble myself, because I knew that it was upon the vocal cords; notwithstanding I was not able to explain what happened; for the paralysis of the abductor muscles was not sufficient reason for this rare phenomenon. That happened February 23, and we agreed that the parents should carry the little invalid to my home on the 26th, in order to begin the application of electricity to the paralyzed muscles.

By misfortune, I woke on the 25th with a great superciliar neuralgia, which obliged me to remain in bed. On the evening of this day the child expelled the latter tube, so extraordinary large for its age, and the father called me in order to help his son, who was suffocating. As I could not rise from the bed, so I besought my dear disciple and expert laryngologist, Gallegos, to go and do what he believed necessary for the child.

My friend went instantly, found the child in asphyxia, and introduced the tube which had been expelled two hours before. In introducing it he observed what I had observed already; that is, that the tube under the pressure of the finger slipped by

the larynx to a place where it could not be touched by the finger. That surprised him as it had surprised me; but he had not time to pre-occupy himself, because he had scarcely taken away the thread than a fit of the cough expelled the tube out of the larynx. This scene was repeated six times; on the third, after the issue of the tube was a moment of imminent asphyxia; a whitish body appeared between the teeth in the middle of thick and sanguineous mucosities, which Gallegos seized, believing that it was a tooth, as the anterior, separated. When he had it in his hand he saw that it was not a tooth, but a white opaline substance, from two millimeters of thickness by ten and seven of length and nine of breadth; irregular, concave on one of its surfaces, convex on the other; with two even and round borders, one superior and the other inferior, and with two dentated extremities. He considered what it might be. At first he thought it was a piece of epiglottis, but when he examined this with the finger, on making a new intubation, he observed that it was intact. He thought then if it might be a substance thrown from the stomach, but none of the food that the child had taken could contain anything of that size and form. Believing that it was gristle he wrapped it carefully in a paper and continued attending to the patient. Tired and weary because the tube was always thrown out by the cough which the extraction of the thread caused, he decided to leave it, reminding the mother not to loosen the thread at all during the night, so that the child could not pull it with his hands and extract the tube.

On the following morning Gallegos went to see the patient and found that he could take the thread without the tube being expelled, and he came to tell me all that had passed and to give me the tube which had fallen into the stomach, and that before twenty-four hours it had been expelled by the ano. Also gave me the strange body taken between the teeth on the preceding night. I staid in bed suffering from neuralgia; heard the relation of my friend, seized that which he gave me, and looked at it carefully. It was already dry, and was transparent and hard, rolled upon one of its surfaces, and had all the appearance of a large psoriasic scale. "I do not know what it is," said I to him.

"Nor I either," he replied, "but I believe that it is a piece of gristle." "It does not appear to be so," I answered; "it resembles more a dried false membrane, or a piece of loosened and dried vocal cord." "You did not see it when it was fresh; then it was like a necrosed cartilage, and by its breadth I believed that it was the epiglottis, but then I have touched it with my finger, and observed that it was complete." "If it is cartilage, as you believe, it will be a piece of the cricoid gristle by its form; but leave it, for I can not speak. Please put it on my cabinet table." Observing the bad state in which I was Gallegos departed; and two hours after the parents of the child arrived at my consultation room with the little patient. He had expelled the tube; and I told them to take him to Gallegos, who performed the intubation, but three hours after another fit of coughing threw out the tube. The child remained without it all that afternoon and all the following night.

In the morning they called me, but as the neuralgia did not permit me to go, and knowing that the child was choking, that he could not swallow more than fluids, and that his general state had grown much worse since I had last seen him, I advised them to perform tracheotomy; for it was seen that the paralysis of the vocal cords was so great that they wanted the necessary tension to retain the tube. I indicated this to the parents the day before, but they did not wish to have a bloody operation performed; yet at last, knowing that if the trachea was not cut their son would die, they asked of me the cannule of tracheotomy corresponding to the age of the child, and with it they went to call Reyero. Unfortunately, he could not go to the child until 12 o'clock; half an hour before this, died, asphyxiated, that fine child who during fifteen days had passed through so many vicissitudes.

As soon as I was relieved from the neuralgia, I begged of my dear friend, the illustrious Dr. Roquero, Professor of Histology in the School of Medicine of Seville, to make a microscopic examination of the body held by Gallegos. Roquero then immersed it in pure distillated water, and examined with the microscope a section, and saw that it was a hyaline cartilage, and that the piece would correspond to more than the posterior half of the cricoid cartilage. Effectually, after having soaked it in the water, the figure shown in the annexed photograph appeared clearly. The surfaces A and A correspond to the

articular facets upon which the arytenoid cartilages turn round; in the middle of the plate one can distinguish the projecting line that shows the union of the two halves of the seat of the ring, and in the sides you can see some rugosities indicative of the insertions of the posterior crico-arytenoid muscles. This anatomic piece I conserve in a solution of hydrate of chloral; for it is equivalent to an necropsy, because it explains the phenomena observed during life, and puts out of doubt the existence of diphtheritic laryngeal perichondritis and necrosis.

If these affections are not quoted as frequently as they ought to be, without doubt we must impute that to people not thinking about more than the inflammation of the mucous membrane and the submucous tissue; as if further than that there is some insurmountable barrier to the simple inflammatory or specific process. As there is no such barrier, it will be permitted to suppose that in many cases the diphtheritic process advances to the perichondrium, and into the same cartilage; and if we do not observe its greater frequency the expulsion of the necrosed pieces, as in the present case, it is due to death happening before there was time for the cartilage to be carious in all its thickness, or that either a large or small sequestre could come out. Neither is it risky

to suppose that there have been cases of expulsion of the cartilaginous pieces, but unknown or not seen by the assistant persons.

I have said that the piece taken from our patient is worth as much as an autopsy or more. It explains to me why the child was choked as soon as he expelled the tube. I imputed it the first time to the mucosities and detritus of the false membranes accumulated upon the spur of the trachea; the second time to a paralysis of the dilator muscles of the glottis of diphtheritic nature. This second time I was right about the paralysis, but I was wrong in its cause. The perichondritis must have appeared in those first eight days in which the child did not have the necessary medical attendance as proven by the intense dysphagia manifested by the little patient. In the moment of the first operation the cartilage must have been immersed in a bag of pus, formed under the perichondrium, the lateral parts of which were probably grown carious. During the first six days of the permanence of the tube, the perichondrium and cartilage stopped ulcerating and then the crico-arytenoid posterior muscles were lost in a great part of its extension. For this reason the vocal cords united as soon as the tube was taken away, and the air whistled in passing through, as much in the inspiration as in the expiration. For this reason the first tube, larger than was convenient for a child of that age was expelled in a fit of coughing, and the same happened with the second and third tube, and this fell down in the larynx, when it was pressed by the finger, because the larynx lacked resistance, the soft parts and the hard parts had lost the base of their support for it is well known that the cricoid cartilage is the fundamental cartilage of the larynx, and that all other parts of this organ rest upon it. When so considerable a part of the cricoid ring gives way as gave way in this case, all the posterior laryngeal wall is put out of its place, the soft tissues are flattened or are united with those of the anterior part of same organ, the arytenoid cartilages necessarily sink and fall in the laryngeal vestibule, and the thyroid cartilage remains without control, through failure of its inferior adhesions.

But the case also obliges us to think that it is possible that one of the ordinary tubes of O'Dwyer can descend in the trachea; for Doctor Brothers, after his experiments, which prove the impossibility of the tube falling down by its own weight in the trachea, tells us that what principally impedes this descent is the enlargement or prominence of the cricoid cartilage in the anterior part of the larynx. If that is so, then if a considerable part of the ring is separated, the retentive enlargement is wanting, and as the soft tissues are elastic, it is possible that the tube may penetrate to the tracheal conduit. If in this child this did not happen, it must be without doubt that when the sequestrum lost its relations with the anterior part of the ring, the diameter of the tube was too large. I, a decided partisan of the method of O'Dwyer, show this contrariety, which is neither little nor insignificant, because the fall of the tube in the trachea would oblige the operator to perform tracheotomy immediately in order to extract the strange body; which would place the physician who had already told the parents of the little patient that he knew a proceeding that would free the child from asphyxia without cutting, in a very delicate situation. Until now I never thought that I should find myself in such a difficulty; for the future I shall have to dread it, although it may be rare, and I shall so tell the family.

But if this case has given me a motive for fear, at the same time it has given me another motive for confidence. All the authors, when writing about the serious accidents of intubation tell us about the obstruction of the tube by the false membranes or by other cause. In this child I found the tube completely obstructed when I took it away the first time, and notwithstanding the child breathed perfectly; and more, the dyspnea began as soon as I extracted the tube. How do you explain the phenomenon? I believe it very easy. Place two thin bands of caoutchouc of five millimeters in breadth by twenty in length in form of ribbons upon a tube, so that they are touched by its borders, but are not very tight. Between two bands is placed a little tube of O'Dwyer, and it will be seen that the ribbons remain separated two or three millimeters in front and behind the instrument. What more suffices for the respiration to be made with relative ease? A similar thing happens in the larynx. The vocal cords are relaxed as in the present case by the loss of resistance of its posterior insertions.

Finally, this history also teaches us that we must never try to extract a tube without having another prepared to introduce, if it were necessary, as happened the first time I took away the tube. If, then, I have the misfortune, which I had in my latter intubation, that the tube gets out from the obturator, and instead of falling into the larynx, it falls into the esophagus, the child would be asphyxiated with all certainty. I do not know if any one of those who have written upon intubation of the larynx have improved upon this precept; if none have previously indicated it, I now show it.

RETRO-PHARYNGEAL LYMPHADENITIS.

Read in the Section on Laryngology and Otology, at the Forty-fifth Annual Meeting of the American Medical Association, held in San Francisco, June 5-8, 1894.

BY W. E. CASSELBERRY, M.D.

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CHICAGO, ILL.

It is now well established that retro-pharyngeal abscess arises ordinarily not in caries of the cervical vertebræ, but in the inflammation of the lymphatic glands which are imbedded in the posterior pharyngeal wall. Of 204 cases analyzed, Bokai placed 187 in this class, in contra-distinction to only 7 cases, secondary to caries of the vertebræ. Children are especially prone to inflammations of the lymphatic system. Cervical lymphadenitis is common among them. Frequently it is tuberculous, but often it is not, and usually the acute variety whether suppurative or non-suppurative, results from infection by a previously existing tonsillitis. So also with retro-pharyngeal abscess; it is most reasonable to regard it as a secondary infection of the pharyngeal lymphatics from inflammation of exposed and associated muco-lymphoid glands, like the faucial and naso-pharyngeal tonsils. In rare instances the source of infection may be rhinitis communicated through the nasal lymph channels or, still more rarely, a suppurative otitis; but as previously mentioned, follicu-

lous and suppurative forms of tonsillitis, as well as those forms of tonsillitis and pharyngitis which are symptomatic of the exanthemata, may reasonably be regarded as the most frequent causes of retro-pharyngeal lymphadenitis.

Whatever the source of infection, the initial stage of retro-pharyngeal abscess is retro-pharyngeal lymphadenitis, and moreover the lymphadenitis may be of a non-suppurative type, or the disease become arrested in this stage, undergoing resolution without the formation of an abscess. This simple lymphadenitis has been but rarely observed in this country, but Bokai, in addition to 400 cases of abscess, mentions 112 cases of simple retro-pharyngeal lymphadenitis as having passed under his observation in the Pester Kinderspital.

I would report the following instructive case:

A female babe 4 months of age, was convalescing from acute folliculous tonsillitis, probably of the variety which I have elsewhere described, under the name of infectious pseudo-membranous tonsillitis, which was prevalent at that time, and which in several other cases, under my observation, had occasioned pronounced cervical lymphadenitis. As the tonsillitis subsided dyspnea commenced and increased for two weeks, at which time I saw the case in consultation through the courtesy of Dr. E. J. Kuh. Suffocation was imminent, cyanosis marked, respiration irregularly stertorous and only possible when the child was held in a certain position. The voice was unimpaired and inspection of the fauces negative, but careful palpation disclosed a hard tumor which projected from the posterior pharyngeal wall in the median line, extending downward sufficiently to press upon the opening of the larynx. I made three punctures into this tumor but failed to evacuate pus, and being otherwise satisfied by its hardness to the touch and the absence of fluctuation that it was not an abscess but a case of simple lymphadenitis, tracheotomy was advised. The recovery which ensued from this operation in a child so young as 4 months, is to be largely attributed to the skilful manner in which Dr. L. L. McArthur opened the trachea without an unnecessarily large external wound, without delay and with antiseptic precautions. The tumor underwent gradual resolution without suppuration, or at least there was no perceptible discharge of pus in any quantity. At the end of two weeks the tracheotomy tube was withdrawn, and the child recovered.

The successful management of such a case would depend first on a correct diagnosis. Dyspnea is the most prominent symptom, the cause of which must be precisely determined. It is easy to exclude diphtheria by inspection of the fauces, and equally easy to exclude both spasmodic and membranous croup by the presence of an unimpaired voice; but I have seen identical symptoms of suffocation produced by a large collection of "adenoids" in the naso-pharynx, which by pushing the velum palati downward and forward, caused it to impinge on the dorsum linguæ and thus impede respiration. This condition can be excluded and the positive diagnosis of retro-pharyngeal lymphadenitis made, not by inspection, but by palpation. Examination deliberately made by the finger of each and every part of the pharynx and naso-pharynx will afford much more exact information in such cases than mere inspection of the fauces.

Having located the tumor in the posterior wall of the pharynx, the presence or absence of pus may be determined by a puncture or two or three punctures carefully made by a bistoury. The exact position of the tumor varies in different cases; it may be high or low, in the median line or to one side. "McClellan's Regional Anatomy" locates one retro-pharyngeal lymphatic gland opposite the second cervical vertebra, but it is likely that it may deviate from this position, and that others would be located by close anatomic study. An inflammation commenced by infection of a lymphatic gland would be likely to involve, also, the surrounding connective tissue. When located low down in the laryngo-pharynx a comparatively small swelling may speedily occasion suffocative symptoms.

This paper includes within its scope the treatment only of retro-pharyngeal lymphadenitis, not that of abscess, and apart from general measures the only symptom of the former affection likely to demand interference is dyspnea. Having made preliminary punctures to exclude a possible collection of pus, the question of tracheotomy must be considered. Intubation is out of the question, for the same swelling which stops the glottis would stop the orifice of the tube.

Bokai[1] finds that tracheotomy is rarely necessary, resolution usually taking place in from five to seven days before suffocation becomes imminent. Nevertheless, Bokai[2] reports a case similar to the one herewith detailed in which he performed tracheotomy. It was a child 8 months old; the posterior wall of the pharynx showed diffuse hard swelling without fluctuation, and a deep incision into the mass had yielded no pus. Resolution occurred without suppuration, the tube was withdrawn at the end of three days and the child recovered.

Unlike diphtheritic croup, early age is no contraindication to the operation of tracheotomy in retro-pharyngeal lymphadenitis, for herewith are recited two cases under 1 year of age, my own of 4 months and Bokai's of 8 months, in which recovery occurred. Good judgment would therefore indicate that whenever dyspnea has advanced to the verge of suffocation, or even to threatened exhaustion of the patient, tracheotomy should promptly be performed.

VALUE OF ANTROSCOPY (ENDOSCOPY OF THE ANTRUM OF HIGHMORE).

Read in the Section on Laryngology and Otology, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5–8, 1894.

BY HENRY LEWIS WAGNER, M.D.

SAN FRANCISCO, CAL.

I am convinced that we all are not always successful in the treatment of empyema of the antrum of Highmore, and consequently we have been obliged to perform a second and more extensive operation. This has taught us the real nature of the disease, and how to thoroughly eliminate the existing trouble. All this may be avoided by a thorough ocular inspection of the maxillary sinus by the antroscope—the endoscope of the antrum.

Two years ago I demonstrated this in a crude state to the San Francisco County Medical Society. I do not need to explain the details of the principles of the endoscope, which are used for illuminating closed cavities, as you are all familiar with them. The endoscope for the antrum is is intended to be used after perforating through the alveolar process or through the fossa canina. It can also be used with the proper curvature through an intranasal opening. The latter method I have abandoned during the last years.

The cases in which the antroscope has proven to me to be useful, were:

[1] Jahrbuch für Kinderheilkunde, Band xxxiii, Heft 3, p. 360. American Journal Medical Sciences, p. 120, July, 1892.

[2] Loc. cit.

1. To determine the presence of a drainage tube in the cavity, which was said to be missing.

2. Where a polypus near the hiatus semilunaris could be located, which had kept up a sero-purulent discharge.

3. Where by a series of bony septa the pus was retained.

4. To ascertain the differential diagnosis of angioma, where suddenly a severe hemorrhage took place from the antral cavity.

5. To facilitate the thorough scraping of the necrosed bone by means of a bent curette—introducing first the curette and then the antroscope.

NEW INSTRUMENTS.

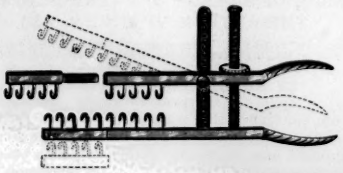
Read in the Section on Laryngology and Otology, at the Forty-fifth Annual Meeting of the American Medical Association held at San Francisco, June 5-8, 1894.

BY SETH SCOTT BISHOP, M.D.

PROFESSOR OF OTOLOGY IN THE POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL, CHICAGO, ILL.

DOUBLE RETRACTORS.

The double retractors take the place of an assistant in keeping the soft tissues out of the way of the operator, and in controlling the hemorrhage during mastoid and other operations of like magnitude. The retractors consist of two shafts, each armed with a series of hooks that can be brought together and interlocked for insertion into the incision, when they can be separated and fixed at any desirable point up to two inches apart. After they have been drawn apart as far as may be required, the thumb screw on the fixation bar next to the hooks should be screwed down firmly into the bar, the handles should be pressed a little together until the tissues are well stretched as the distal ends of the retractors separate, then the thumb nut on the thread bar should be turned down against the movable handle.



If the instrument is properly adjusted the tissues can not slip out of its jaws and their pressure on the stretched lips of the wound reduces the hemorrhage to a minimum. In one operation these hooks proved more effective than five artery forceps.

The following arrangement renders these retractors equally useful in the smallest and the largest mastoid operations: The outer half of the shaft of hooks can be slipped out of the inner half, leaving the retractors only an inch long. Replacing the adjustable series of hooks makes them two inches long, and by drawing these adjustable hooks outward one-half inch you can lengthen the hooks to two and one-half inches. This has the effect, when the instrument is in position in a large wound, of making an opening two inches to three and one-half inches wide, by three or more inches long through which to work. However the opening can be made as small as one wishes, and the capacity of the instrument is far beyond what we usually require in operations on the skull, but I have had it made so as to be of service in other and more extensive operations, since its size in no way impairs its efficiency in mastoid cases.

When the adjustable parts of the hooks are removed for small operations the openings in the permanent hook-shafts, into which the adjustable hooks fit, may be securely sealed by a bit of beeswax to prevent the entrance of blood, etc. After being used, this wax will run out on the application of a little heat. A drop of oil should then be put in the same openings to prevent corrosion, or sticking of the adjustable shank.

A PERIOSTEUM SEPARATOR, RETRACTOR AND CURETTE.

This hoe-shaped device overcomes a serious objection to the misnamed periosteotomes we have been using. Indeed these instruments should not be *tomes* at all. They should not cut the membrane, but should lift it from the bone in continuity, so as to carefully preserve its integrity.

The old periosteotomes put the operator at a disadvantage by necessitating an unnatural play of his muscles. With a pushing motion one has not perfect control of the movements of the instrument and it is likely to slip and cut where it is not desirable to wound. In the use of this kind of a lifter the motion is one of drawing or pulling toward one's self so that the muscles brought into play are, together with the instrument, under easy control—on the same principle as the farmer's use of his hoe, after which it is patterned.

As the separator serves the purpose, not only of detaching the periosteum, but of retracting the loosened tissues, or of curetting necrosed bone, it may be said to constitute three instruments in one.

EAR ASPIRATOR.

This instrument is for the purpose of evacuating, or aspirating, the middle ear and adjacent cavities of pus. It consists of an improved air pump and adjustable glass air chamber that fits into the external auditory canal by means of a soft rubber covered tip.

A few gentle tractions of the piston will draw out the discharges from the attic and deeper recesses after the most thorough ordinary methods have proved futile. Not enough force should be employed to cause actual pain or much sanguineous effusion. Yet a slight show of hemorrhage is not disadvantageous, for the parts are stimulated and thoroughly washed of discharge.

The pump is serviceable in chronic cases of caries of the attic, aditus, and antrum in order to obtain complete evacuation and cleansing as the first step in every treatment.

These instruments were made for me by Messrs. Chas. Truax, Greene & Co., of Chicago.

Columbus Memorial Building.

THE CARE OF PREGNANT WOMEN.

Read before the Association of American Obstetricians and Gynecologists, 1894.

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It is a stirring conviction with many reputable, earnest and progressive obstetricians, that the time has come when we must disclose our power to the world by increasing the usefulness of our labors; and begin to use it for the prevention, as well as for the alleviation, of the sufferings of pregnant women, as has not yet been done, or else get out of the way. In such an event, deliverance will come to this class of suffering women from another source; but woe to those of us who are found at ease with the assumption of this responsibility. The responsibility is tremendous, but the obstetrician can not evade it. He may selfishly shirk it; but it is absolutely out of his province to shift it. That it is our most sacred duty to purpose awakening the profession by arousing one another, until each and every member is fully astir in the line of progression—the indifference of which is the greatest hindrance the medical profession has to contend with to-day—is the writer's hope and belief. The specialist just now is being put to the sharpest test ever known in his history. Whether we as obstetricians will endure it, and turn about to accept it as the greatest opportunity the centuries have brought us, depends upon our readiness to hear and heed the voice of Nature, so very clear and distinct to-day. These are matters of great importance to us, and this is a meet place and time to bring them to notice and to consider them. No one can read, listen, and observe with intelligence now, and not feel that we are living in one of the most marvelous and, for the true-hearted, progressive practitioners, one of the most responsible epochs the world has ever known. That the medical profession is not fully awake to the needs of the hour, as she should be is sadly true. Far be it from me to depreciate in the least degree, the noble work done and the glorious advances made by our profession for human physical betterment. She is unmatched by all other organizations combined in this respect. But, it must be remembered that she should be. It is just this that gives significance to the contrast between what she has done and should have done. She has need to be taught again her first duty: To preserve the human body sound, which begin the first principles of the oracles of God.

Let us recall the three great and noble objects of medical science, namely: 1, to preserve health; 2, to allay suffering; and, 3, to banish disease. The more immediate duties of the obstetrician are to preserve life, to mitigate pain, and to expel disease, amid the natural or accidental difficulties to which pregnant and parturient women are constantly exposed. The study of the diseases and difficulties encountered with a state of pregnancy and parturition, though highly interesting and having at all times attracted the greatest attention of physicians is, however, exceedingly difficult. This circumstance probably atones for the fact that our obstetrical literature still continues to be full of errors. By consulting the best practical writers, missionaries, and travelers, the revelation comes that it is among the higher classes in the more civilized countries—Europe and North America—that women suffer the greater in both pregnancy and parturition; but that the women of the peasantry and the savage are comparatively exempt. We may therefore very naturally and wisely conclude that it is unnatural for civilized woman to suffer so universally as she does to-day; and that civilization in disobedience to the law of Nature, is the true cause of her present suffering during gestation and childbirth. Thus we may

> "Find out the cause of this effect,
> Or rather say the cause of this defect,
> For this effect defective comes by cause."

It is ignorance, as well as carelessness and viciousness, that has brought about the existing abnormal condition of civilized women. Thus, through unwholesome civilization have come fixed habits of excesses; and if excesses must be indulged, evil consequences will follow and must be endured; for Nature's law would have to be changed before they could be either prevented or banished by any method of treatment. It follows, then, as a natural consequence that to prevent these sufferings will depend, not so much on treatment by application or administration of therapeutic agents, as on the successful education and training of these women, so that they will learn to know how to—and will actually—cultivate the necessary self-discipline requisite to enable them to prevent the continuous irritation from excesses in their modes and habits of life. If the writer's observations have been correct and unprejudiced, it seems that a revival of learning in obstetric science must needs be instituted among us, destined to find the true cause or causes of the unnatural and needless suffering of civilized women. The progress of obstetrics in the immediate future must be made through the knowledge that will be wrought out by the devotees of biology. Thus, we shall find our way, on positive ground back through the morphology of organs, tissues, cells and blood, to a clear comprehension of the origin of vital activity in protoplasm and the pabulum which sustains it. This is the only way open for us into the primitive arcana of Nature, if we would have the wisdom essential to intelligently inculcate that regimen which will successfully prevent the needless sufferings of pregnant and parturient women.

The future distinction of obstetric science can obtain only by an advanced study of human biology. When this truth is propounded, there opens before the thinking mind a vista so transcending all ordinary limitations of obstetrical knowledge, as requires such genius and expansion of the mental eye in order to embrace it in its simplicity as scarce yet obtains. It remains, then, for our guild, to endeavor by rigid scientific investigation through advanced biologic studies, to make patent the causes of the sufferings of pregnant and parturient women, and to determine exact measures for emasculating these causes, or for neutralizing their effects whenever they have eluded detection or escaped emasculation. Thus, by directing our studies chiefly in relation to etiology and diagnosis, and having learned to know the true cause it will become easy to intelligently establish prevention; while, with a correct diagnosis, treatment will become easy.

I verily believe that, the next coming great advance in this, our special branch of medical science, will be in our bringing home to the general practitioner the fact, that the diseases peculiar to women during pregnancy and parturition are very largely preventable. To make him feel his responsibility, both as to their production after the present

generally prevailing methods of practice, and also as to the possibilities of their prevention after improved methods. The family physician must be fully aroused to the conscious realization of the fact that it lies within his power very largely, to prevent many of the diseases among the women of the families intrusted to his care. When this obtains, his moral obligation will impel him to promptly do his full duty, by giving adequate instructions concerning the ill effects of improper posture, dress, food, drink, and erroneous habits of living, including the non forbearance of indiscriminate, excessive and impure sensual indulgences. Then it will come to pass that the wholesome forbearance of coitus during the entire period of gestation, the puerperium, and three months thereafter, will be insisted upon; together with correct posturing and dressing, proper food and drink, and healthful habits of living. Aseptic accouchments will be faithfully and efficiently practiced; lacerations of the cervix and perineum will be more frequently prevented, and when they do unavoidably occur will be early repaired; rectal and vesical troubles will be corrected in due season; gonorrhea and syphilis will be also more frequently prevented, and when encountered will be more vigorously treated and kept under surveillance until all discharge and sequelæ are arrested. And, what will be of far greater benefit to mankind, there will be given the requisite attention to the growing girls, with special care about the years of puberty, that more vigorous bodies and more normal reproductive organs be developed. A positive, clear and convincing protest will be made against the present unwholesome state of society which is now urging our girls on to a degree of emasculated physical corruption, by luxurious indolence, deleterious dress and sensual excess, and superbly fits them to live in communities by themselves—in women's hotels—whereby they become ruined for wifely companionship and sturdy maternity. When that day comes—as I verily believe it to be within the province of our intelligence to successfully inculcate—then, and not until then, may we hope to find that the prevalence of diseases among civilized women will cease to be a reproach to preventive medicine. Then will authors and teachers find it necessary to discontinue defining woman as, "an animal with a constipated bowel and a pain in her side."

But as yet, at present we are compelled to meet the situation as we find it. The condition of the suffering of the civilized women of the present generation, however grossly unnatural it has been cultivated, must needs have our most careful attention and require our wisest judgment, lest we fail to institute proper treatment for their relief. In the care of pregnant women much of great importance devolves upon the obstetrician, with regard to safely conducting the mother through the period of gestation, parturition, and the puerperium; the preservation of the life and healthful condition of the child; and his own reputation. The diseases of pregnancy unquestionably is a field only partially and imperfectly explored. When we take into consideration how much of accident might be avoided and how much real good done to this class of suffering women by proper care, it places us at a loss to account for the fact that obstetricians have hitherto neglected their duties, by signally manifesting a want of endeavor to promote the advance of obstetric science, in a direction quite worthy of the profoundest investigation. It is a noteworthy fact that the conditions which beget the disorders of pregnancy are not thoroughly treated by any of the standard works upon obstetrics. We are so busy thinking, discussing, defending, inquiring, practicing and teaching, about the better modes of alleviating human suffering that we have no time and no leisure of mind for quiet contemplation, to allow the exercise of the intellect to feed upon Nature's truth, without which it is impossible to obtain a clear knowledge of the real causes and how to successfully prevent them. Communion with Nature was never more needful than now. Feverish activity rules all spheres of life. Medical effort is multiplied and systematized beyond all precedent. And all these things make calm fellowship with Nature hard to compass. We can conquer Nature only by obeying her laws, and in order to obey those laws we must first learn what they are.

For the convenience of our consideration, the paramount duties of the obstetrician in the study and care of pregnant women may be classified as follows:

1. To discover if the patient be actually pregnant.

2. To determine positively if the impregnation be uterine or normal, as contra-distinguished from tubal, abdominal, or abnormal pregnancy.

3. To carefully note the pregnant woman's history, including her age, primiparity or multiparity, environments, station in life, general condition of health, period of gestation; as well as her dress, food, drink, and habits of life. To make repeated examinations of the urine and ascertain the temperature, from the time pregnancy is established to the termination of gestation.

4. To make a physical examination for the purpose of accurately determining the diameters of the pelvic straits; the symmetry and size of the bony outlet; the integrity, condition, and position of the vagina, uterus, and other inter-pelvic viscera, and adjacent structures; the state of the abdominal muscles; the presence or absence of hernia, varicose veins, tumors, etc.; the shape, size and condition of the breasts and nipples; the condition of the heart, lungs, mind, stomach, bowels, etc.

5. To observe the state of the fetus, its strength and viability, as well as the implantation of the placenta.

These must all be included in the search for intelligent guidance, as to how the proper management of the pregnant woman should be conducted. With regard to the first, all experienced observers have found that psychologic phenomena often call for an intimate study and wise differentiation of every form of hallucination, delusion, illusion, as well as the delirium of cerebral hyperemia, or the frenzy of the maniac, from toxemia and eccentric irritabilities. And, that such abnormal conditions frequently exist unrecognized, and so continue until they eventually establish their peculiar fixed impress upon the mind and nervous system. Thus when the paranoiac woman simulated pregnancy, and even parturition, she deceived the better judgment of some of the most skilled obstetricians. Pseudocyesis and pseudotocia are recognized abnormal conditions, which so closely resemble the normal condition of pregnancy, and the beginning of parturition, as to demand our highest discriminative faculties in arriving at an intelligently correct diagnosis.

As to the second, it remains a simple self-evident

fact that it should always be positively determined whether the impregnation be uterine or extra-uterine. How to intelligently differentiate normal or uterine from abdominal pregnancy, time forbids to discuss fully in this connection; suffice to say that it may be made by careful palpation of the abdominal parietes, together with vaginal and rectal digital examination and proper posturing. Paracyesis and interstitial or cornuate fetation are purposely omitted, as such accidents can scarce be diagnosed at a sufficiently early period of gestation to be of actual benefit. Abnormal implantation of the fetus constitutes a most important class of cases with which the accoucheur has to contend. Extra-uterine or tubal pregnancy is rarely suspected until after certain dangerous and distinct symptoms are manifested, chiefly because no opportunity is had to discover it. These symptoms are such as follow rupture of the cyst containing the embryo with intra-pelvic, or interperitoneal hemorrhage and shock; as sudden seizure of violent agonizing pain in the lower abdomen, fainting, pale, or anemic surface of the body, cold clammy skin, rapid and almost imperceptible pulse, sighing respiration, etc. Whenever extra-uterine fetation is discovered, either before or after rupture of the cyst, the question of treatment is a very grave one. But experience teaches us that this truly marvelous and murderous condition admits of only one line of action to be followed with any degree of ultimate safety to the life of the pregnant woman. Section must be done. No other line of treatment that has been advanced is so rational and certain in the ultimate saving of life as abdominal section. The perfected technique, as we have it to-day, makes it a safe procedure. We must, however, bear well in mind what experience also teaches us, namely: that when the placenta is found still in the tubal sac it is best to enucleate and remove all—the tubal sac and ovary; but that whenever the placenta is found partially or wholly out of the tubal sac and adherent to the peritoneum, bowel, etc., and still alive, the very best that can be done is to let it alone—to keep hands off. In these cases the ultimate safety of the patient lies in removal of the fetus, cleaning out the peritoneum of blood clots and all other *débris*, ligating the bleeding vessels, pack with iodoform gauze, and treat as an open wound; thus allowing the placenta to come away in due course of time by suppuration. We can thus guard against sepsis by drainage and cleanse out the cavity as fast as putrescence develops. My most venerable friend and classmate at the University of Pennsylvania, Dr. Joseph Price, than whose experience in these cases there is none more extended and successful, and consequently he deserves to be accepted as reliable authority, says: "All other lines of treatment that have been advocated fall into insignificance with this manner of managing these cases." He also claims this is a summer disease or accident, being in his experience almost always found only during the summer months; when May comes he looks for extra-uterine pregnancy cases.

The third brings us thoughtfully to consider the influences of those conditions which have been hitherto so grossly neglected, but which demand a decided and determined prophylaxis. The unprecedentedly rapid progress of civilization in disobedience to the law of Nature, as evidenced by the accumulation of wealth on one hand and extreme poverty on the other; the forcing or cramming system of intellectual education with lack of requisite physical training; the custom of unwholesome food and drink; deteriorating fashions of dress and habit of society; unbridled sensual indulgences; and the woful endeavor to equalize the duties of women with those of men, have within the last generation very much deteriorated the child-bearing capacity of civilized women. True, the standard of female beauty is increasing, and decided intellectual growth manifested by women in all departments of science and art; but, in the same ratio do we find the remote dangers as well as the immediate accidents of gestation and child-birth have increased. Hence, we find that flaccidity of the abdominal, spinal and pelvic supports; chronicity of the shattered exotic nervous systems; abnormal state of the ovaries; subinvolution of the uterus, etc., have marvelously increased in later years, notwithstanding the much vaunted so-called hygienic advances in improved habits of living and reform in dress. These unnatural conditions are most prevalent among the residents of our cities, and increase from bad to worse as we go from the smaller to the larger and more crowded marts in civilization. They are as prolific sources of chloro-anemias, trophic-nerve paresis, hydremias, hyperemias, and prostrations during pregnancy among the women of wealth, ultra-refinement and excessive culture, as are those women who are subjected to the privations and hardships of extreme poverty. The remarkable fact in history being that there has been a proportionate increase of these conditions among the women of these two extremes of life, whereas the reverse holds good with women who belong to a middle class and are comparatively free from the unnatural behests of modern civilized society, or of irremediable poverty. The pregnant woman whose parentage, as well as herself, has been untrammeled with the deleterious impress of either of these two extremes in life, will terminate her gestation and parturition with much less suffering, and more healthful to herself and her offspring, than will her more unfortunate sister who comes from a stock reared in the excesses of indolence, luxury or poverty. The pregnancies of too early, as well as of too late, marriages are alike to be apprehended as fraught with unnatural conditions. The girl who enters the matrimonial state at the nubile period, from 18 to 20 years of age, will approach the marriage couch with a much better prospect of wholesome fruition, healthy to herself and offspring, than will she who enters the nuptial relationship earlier, under the turbulence of puberty, immature physical development, and illy formulated morale, amid the storm-waves of exalted nerve tensions superinduced by over-taxed educational training, and undue stress of unwholesome fashion and society; or, than she who marries late, say after 28 years of age, who still retains all the productive elements but which have been debilitated by repeated disappointments, now leave her with the elasticity and resiliency of youth—the regulating factors in all growths—defective, and the newly stimulated energies of a life somewhat wasted are revived in a physical organism unfitted for the reproductive process. The ovaries and uterus may properly perform their respective normal functions from puberty to the menopause, but it must be remembered that an opportune impregnation is requisite to preserve woman, if not rosy and plump, at least elastic and buoyant; that her maternity may be exempt from pelvic indolence, so typically manifested

by the flattened chest, the wrinkled face, and some fixed cultivated hobby—to save the rosy-cheeked maiden of 20 from shriveling into the parchment-skinned spinster of 40, by timely desuetude of celibacy. The primaparity or multiparity of the patient also demands its quota of consideration in the etiology of the diseases of pregnancy. The influences of heritage, personal habits, station in life and environments, usually make up the requisite field for the consideration in the primapara; whereas, in the multipara we find it essential to also look well after such conditions as the subinvolution of the uterus, lacerations of the cervix or perineum, tumors, and defective pelvic, abdominal and spinal support, as they often lead to abortion or to direct dangers during parturition.

The thoughtful obstetrician will, with inexorable discipline, advise his patient as to the requisite *regime*. The consciousness of his full duty will impel him to insist upon:

1. Absolute, regular hours and wholesome environment.

2. Plain but nutritious and wholesome food and drink, being principally composed of fresh lean meats, fresh fruits, pure milk, and distilled water.

3. A proper amount of exercise, by walking or light labor on foot and maintaining the correct erect posture. Whenever infirmity forbids such exercise, recourse should be had to massage, and as much time passed in the open air as is advisable under such unfortunate circumstances. Rest in the recumbent posture after meals and fatiguing efforts, with not less than ten hours sleep out of every twenty-four.

4. An open condition of the bowels and skin, which is to be chiefly maintained by proper diet, exercise and bathing, the wearing of flannels, warm low-heeled shoes and loose garments, and, in rare cases, the proper use of laxatives, and hot water enemas.

It, however, not unfrequently falls to our lot to have placed under our care pregnant women who belong to the poorer and less favored class, exposed to too much labor, privation of proper food, dress, and shelter; with whom we find ourselves confronted with the question for bettering their diet, dress and habitation, which assumes such proportions that demand our assistance, not only as medical men, but also, as philanthropists. Fortunately the advantages which the many charities afford enable us to give this class much benefit in every way, save when mental anguish and nostalgia become irremediable factors, in the production of depressing influences which bar the healthful action of the resources at our command. With regard to repeated examinations of the urine and noting the temperature, it suffices to say that as is the urine and temperature so is, very largely, the prognosis and treatment prior to parturition. Urinalysis and thermometry are simple in detail, yet how prolific of averting the culmination of conditions very hazardous to both mother and child. Conditions which otherwise are frequently discovered only by the appearance of anasarca of the inferior extremities, edema of the face or lungs, or a seizure of eclampsia, after which attention is given to these searching steps, but often too late to be of any value in devising a prophylaxis. This very naturally raises the question, Is there a prophylaxis for the albuminuria of parenchymatous nephritis during pregnancy and consequently the avoidance of eclampsia prior to or during parturition? The experience of an earnest rational endeavor in a limited number of cases warrants the opinion that very much may be done in this direction. So, also, with regard to the prophylaxis of parturial sepsis, which is a problem of equally great magnitude. True, sporadic cases of so-called puerperal fever (parturial sepsis) as well as of eclampsia, etc., ensue in spite of all possible efforts, but it is the writer's firm conviction that these murderous complications can and will be prevented by timely precaution and by banishing every factor in their production. Preparatory hygienic regulations, antisepsis and quarantining will as surely save the mothers from these complications as absolute cleanliness at parturition will save the child from ophthalmia neonatorum.

In proof of this, it is needless to confine reference to personal experience in private practice, for in addition we find the maternities likewise furnish abundant evidence in support of this declaration. Here we may cite, as the most striking example, the indefatigable labors of our eminent Fellow, Dr. Joseph Price, in his connection with the Preston Retreat at Philadelphia, whereby both that institution and himself have become renowned, in establishing this fact beyond all doubt or cavil, that these complications can be prevented.

A word with regard to the term, puerperal fever, which is misleading and fails to express the condition it is intended to imply. It should therefore be expunged from our literature and be replaced by the proper term, *parturial sepsis*. Parturial sepsis is a surgical sepsis, arising from the conditions in which women are found during the extrusion of the uterine contents, similar to those during surgical procedures. The same classes of septic infection and septic poisoning occur in the non-pregnant state, during operations upon the pelvic viscera done without due regard to absolute cleanliness, and in hospitals where patients are crowded together with want of proper sanitation. Facts, as numerous as can be collected in any department of medicine, prove conclusively that the infection and contagion of sepsis, non-specific and variable as they are, can be conveyed by the nurse or attendant as well as by the accoucheur, and thus may likewise poison patient after patient until they also, as well as the accoucheur, either discontinue their labors or subject themselves to the most rigid discipline of absolute cleanliness and sanitary environment. When this prophylaxis obtains, then will parturial blood poisoning cease to be among the cases intrusted to their care, and they will find themselves rewarded with a mortality of *nil* from sepsis. It is very clear to the writer that the more carefully we study and practice obstetrics on sound surgical principles, the better success will we obtain. This, above all else, will secure a thorough preparation of the vagina, that the child may make its exit into the world through a clean channel, which will insure safety to both mother and child. And again, if the forceps or the hand should be required, if laceration of the cervix or perineum should occur, the patient will then have the healthful benefit of the same preparation as is given for surgical procedure. A word also with regard to finding ourselves summoned during the latter period of pregnancy, or at the approach of parturition, to attend one who is suffering from or threatened with eclampsia, and the case being a plethoric subject I should feel it as much my duty to bleed, as I should to clean out the endometrium

whenever parturial sepsis was found to be due to the retention of infected decomposing portions of the secundines. While, if the patient under like condition belonged to the more rare class of anemic cases, I should hope to happily correct the disorder by chloroformation, hot water, the hypodermatic use of morphin and atropin, veratrum viride, etc.

Under the fourth head of the subdivision of this subject, it may be remarked that pelvimetry is an equally essential requisite with urinalysis and thermometry. Deviations from the normal symmetrical pelvis, the diameters of the pelvic straits and the inclination of the bony excavation, exercise marked influences in proportion to the degree that they exist. In an abnormally broad capacious pelvis, with obliquity lessened and supports relaxed, we find that in the earlier period of gestation the tendency is to misplacement of the gravid uterus, either forward or backward and downward, from gravitation in consequence of increased weight. These abnormal uterine positions are usually manifested early by bladder or rectal difficulties with bearing down or pressure in the pelvis, and a dragging sensation from the lumbo-sacral region, etc. The functions of the intra-pelvic nerves, blood vessels and lymphatics being interfered with, we find in a proportionate degree that there is produced a stasis in the venous, vaginal, uterine and rectal plexuses, and consequent dilation of both these vessels and the lymphatics. Thus we have produced a hyperemic state of the entire pelvic circulation resulting in edema primarily, followed by ecchymosa of the peri-vascular, peri-lymphatic, and other cellular tissues, to be succeeded later by varix of the vulval, vaginal, uterine and hemorrhoidal venus plexuses, and consequent trophic nerve changes. It is a noteworthy fact that in these cases there is almost invariably found a want of the correct erect posture. The woman, herself, unconsciously increases the aforesaid difficulties by assuming a more or less stooping posture, in her endeavor to make herself comfortable from the dragging sensation below. Thus we find the abdominal and spinal muscles relaxed, the lumbo-sacral spine receding behind its normal axis-perpendicular with ear, shoulder, hip and ankle—the weight of the superior trunk gravitating back of this normal axis and falling perpendicularly behind the heads of the femurs; whereby the pelvis is swung upon the femur heads from an oblique to a more or less transverse position, while the superincumbent weight of the abdominal and thoracic viscera, instead of being directed forward, by the normally advancing lumbo-sacral spine and supported upon the pubes and lower portion of the abdominal muscles, now falls directly within the basin of the pelvis, exerting its injurious effects upon the contents thereof. The real causes of these conditions being thus clearly revealed, the treatment becomes very simple. This consists in first reëstablishing and maintaining the correct erect posture, thereby securing the normal obliquity of the pelvis by advancing the lumbo-sacral spine in its normal axis of the body. The superincumbent weight of the abdominal and thoracic viscera is then again directed to normally gravitate upon the pubes and lower border of the abdominal muscles, and at the same time there is afforded the normal shelter to the pelvic contents below and behind the promontory of the sacrum. Experience has established the fact that the correct erect posturee in thse cases is secured and maintained the more effectually by virtue of proper external support. The external support which fulfills this purpose the better is one fully detailed by the writer in a paper read before the International Congress of Gynecology and Obstetrics, at Brussels, Belgium, September, 1892.[1]

The normal equipoise of the superior trunk upon the lumbo-sacral spinal axis having been thus restored, whereby the evil influences from the weight above as a prime causative factor in intra-pelvic disturbances are happily overcome, there remains but attention to be given to the insignificant weight of the misplaced pregnant womb itself. This is usually easily corrected, when free from adhesions, by proper posturing, and afterward maintained by proper internal support with some pessary suitably fitted to the case.

When, on the other hand, the pelvis is abnormally distorted or contracted, the question of how best to conduct the gravidity has been even a more unending source of discussion than the preceding condition. Here pelvimetry furnishes us the chief guidance. But before we progress further, let us first break loose from the traditional shackles of our predecessors and their authority, which have too long retarded freedom of thought to such a degree that he who dared to doubt met but derision. I refer chiefly to the murderous practice of inducing premature delivery and embryulcia in this condition. In the present light of science these procedures have no place in the obstetric art in connection with a viable fetus. They simply deserve to be mentioned that they may be the more effectually relegated to the past. This leaves us to choose principally between but two procedures whenever we find the pelvis so distorted or contracted that it precludes all probability to deliver the living child, namely, symphyseotomy and Cæsarean section. Without specifically considering all the points of this very serious condition—which fortunately for us, is, comparatively speaking, very rarely encountered in the native born American women—I would unhesitatingly advise against the termination of gestation, looking more hopefully to ultimately saving the life of both mother and child by resorting to one of the aforesaid operations. It is to be remembered, however, that it is the duty of every intelligent obstetrician to become thoroughly familiarized with the indications as well as the technique of both these operations, neither of which are to be lightly undertaken by any one who does not possess the requisite skill, both in the obstetric art and abdominal surgery.

With regard to the proper selection of these two operations, I can do no better than quote my friend, Dr. Barton Cooke Hirst, of Philadelphia, who is an acknowledged authority on the obstetric advances, in his address before the Washington Obstetrical and Gynecological Society, Nov. 17, 1893, and published in the *Medical News* of Philadelphia, Dec. 2, 1893: "It is obvious, therefore, that symphyseotomy can be preferred to Cæsarean section on the one ground alone—that it is less dangerous to the mother. A careful study of the results of symphyseotomy and of Cæsarean section will show that the latter is, at the very least, twice as dangerous to the mother as the former. The mortality of the infants is not quite so great in deliveries by Cæsarean section. Moreover, by Cæsarean section the child is sure to be delivered easily,

1. This support is manufactured by the Natural-Body Brace Company, Salina, Kan.

no matter what the size and shape of the pelvic canal may be, and there is no necessity for that nice calculation in pelvimetry that is usually demanded before a contemplated symphyseotomy, a calculation in which even the best of us may err. With my own experience of three perfectly uncomplicated recoveries from symphyseotomy, I feel disposed to regard this operation with more favor than version and extraction in a markedly contracted pelvis. The opposite error of opening the symphysis when the pelvis is too small to permit of delivery by this means is more difficult to escape. It will only occur in a pelvis with a conjugate of sixty-seven millimeters, or under, a degree of contraction not often seen among us; and could we always be sure of the accuracy of our pelvic measurements, the mistake would pretty surely be avoided. I can imagine no more embarrassing predicament in obstetrics than a failure to extract the head after opening the symphysis. I should feel reluctant to operate again at the lowest limit for symphyseotomy unless I had the opportunity first to induce labor and artificially dilate the cervix some two or three weeks before term. In this case I should not hesitate to operate with a conjugate as low as sixty-five millimeters, and I believe delivery might be possible with a conjugate of only sixty millimeters. We may therefore be guided by the rule that at term, symphyseotomy is available only in cases where the conjugate measures over sixty-seven millimeters, while if the conjugate is found to be sixty-seven millimeters or under, the only recourse to be had is Cæsarean section.

The destruction of the embryo is, however, not only warranted, but becomes a requisite under certain circumstances or conditions; such as the presence of large fibroids in the body of the uterus, or large tumors involving both the ovary and uterus, also cancers of the uterus, and in certain cases, of placenta previa. Placenta previa is another abnormal condition deserving attention. It properly belongs to that class of appalling accidents in the lying-in room, as eclampsia, post-partum hemorrhage, rupture of the womb in uterine pregnancy or of the cyst in tubal pregnancy, etc., which allow but time for action. Experience teaches that the proper use of forceps in these cases is to be preferred to the hand. The chief reason being that a narrow-bladed forceps can be introduced much earlier than the hand—requiring a dilation of only about one inch as compared with two and three-quarter inches for the hand—and, by grasping the head and bringing it down, tampon the placenta at once; whence time may be given sufficient to obtain full dilation and delivery with greatest possible safety to both mother and child. In these cases we may very properly follow the one line of action. As soon as the diagnosis of placenta previa is established our action must be prompt in evacuating the uterine contents. Hemorrhage is the danger signal. When this signal is given early, say prior to the sixth month, and the diagnosis established, we should proceed without any regard for the life of the child. When, however, this signal is given later, we should proceed as promptly, but with all possible endeavor to save the life of both mother and child. Whenever hemorrhage takes place in these cases it is Nature's signal to us that there is great danger ahead; that the condition is so serious as to endanger, if not to take the life of the mother at any moment. We can not accept the situation only as serious, and must act promptly and effectually. The proper antiseptic precautions being observed with special reference to the vagina and the accoucher's hand, the patient being placed under anesthesia, introducing first the index finger into the cervix, dilating gradually until two fingers are successfully introduced, and, when sufficiently dilated to admit of the forceps, pass the fingers through the body of the placenta, rupturing the membranes and place the forceps on the head, bringing it down and tampon the placenta at once. When, as sometimes happens, the dilation is greater and the presentation abnormal or less favorable the accoucher had better resort to the passing of his hand and turning by Braxton-Hicks method and drawing the child into the cervix, and thus arresting the hemorrhage. The hemorrhage once checked, the subsequent delivery will be fully under control.

I have in this paper but sketched some of the salient and mooted points of the prophylaxis of the complications and needless sufferings of pregnancy, with no attempt at thoroughly elucidating or elaborating any one of them. Having no pet theory to promulgate and sustain at all hazards, no long list of cases and statistics with quotation and abstract from an exhaustive roll of writers has been made out. And, while universal conviction may not be with me on premises somewhat narrowly drawn, still I hope the attention of the Association may be drawn to their thorough consideration, that free discussion may evolve all the facts of this interesting subject and, finally, to find with many of you these facts received with favor and not only to maintain an excellent reputation, but also to increase in favor on closer acquaintance.

TRACHOMA OR GRANULAR LIDS.

BY JAMES A. LYDSTON, M.D., Ph.G.

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Trachoma or granular lids (not granulated lids), ophthalmia militaris, ophthalmia Egyptiaca, trachoma verum, trachoma Arlti (Arlt), trachoma follicular (Horner), trachoma mixtum (Stellwag), as it is variously styled has received much attention at the hands of ophthalmologists, and the literature upon the subject is so copious that it is almost an act of supererogation to attempt to present anything new and interesting upon the topic; but the dreadful ravages of the affection, and the fact that we are still far from a unity of views in regard to the disease, renders an attempt in this direction at least excusable. Not long since an article appeared in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from the pen of an eminent professor of ophthalmology in which the expression "granulated lids" was used, and while appreciating that by reason of the peculiar anatomic arrangement of the lids, granular and hypertrophic masses are distributed over the conjunctiva tarsi and transitional folds, yet we must insist that such a term should be reserved for the laity as we are not familiar with anything like granulated lids, although such a term can be rightfully applied to sugar.

Before discussing the various forms of trachoma or granular lids, we will note a few historical data with respect to this affection. Relatively speaking, we may assert that it has only been within the last

century that trachoma has demanded much consideration at the hands of specialists, as it was only at the beginning of this century that the disease asserted itself as an epidemic among the European soldiers, hence the term ophthalmia militaris. Many concluded, by reason of its first appearance among the soldiery, that it was a product of importation from Egypt, hence ophthalmia Egyptiaca, and the disease was laid at the door of Napoleon I. upon his return from Egypt to Europe, it being presupposed that the disease was formerly confined to Egypt. But it subsequently transpired that it had been known in Europe since antiquity, and even to Celsus is accorded the honor of having described the condition, mentioning the characteristic roughness of the lids and the accompanying purulent discharge; and we find to-day a tendency to revert to the old-time methods of treatment by inducing a certain amount of inflammatory reaction which the ancients accomplished by means of friction with fig leaves and by specially devised instruments. So we must conclude from the foregoing that trachoma has existed from the most remote periods, and that the trachoma of to-day is nothing more nor less than modified acute trachoma of olden days, which was characterized by profuse purulency, and that the specific virus upon which its ultimate origin depends has become modified so that it is to-day less virulent in its effects when transferred from one eye to another.

Character.—Trachoma is a chronic, specific, infectious inflammatory affection of the conjunctiva accompanied by distinct purulency, and the name trachoma is derived from the Greek, signifying rough.

Symptoms.—Individuals suffering with trachoma complain of watering of the eyes, agglutination of the lids, sensitiveness to light, pain and disturbance of sight, which are sometimes though not constant sources of annoyance. The eyes are less widely opened as a result of swelling and sensitiveness to light, and upon eversion of the lids we notice that the tarsal conjunctiva as well as that of the transitional fold is reddened and swollen, while at the same time there is a variable degree of roughness caused by hypertrophy which is of two characters in accordance with the different anatomic characters of the affected conjunctiva. The first form of hypertrophy is the appearance of the papillæ so styled, which are elevated patches here and there, newly formed over the conjunctival surface, which accordingly looks velvety, or the papillæ may become so large as to impart a coarse granular, nodular, or even a raspberry-like aspect to the conjunctiva. Thickening of the conjunctiva is absent at this period, consequently the underlying meibomian glands glisten through the conjunctiva. This form of hypertrophy is limited to the conjunctiva tarsi and is styled papillary hypertrophy. This form of hypertrophy is peculiarly prone to attack the upper lids. Trachoma granules are characteristic of the second type of conjunctival hypertrophy. They are seen as grayish or yellowish-gray, roundish translucent gelatiniform bodies, and have been styled from their appearance the sago or frog-spawn excrescences, found chiefly in the transitional folds in such great abundance that when the lower lid is exposed to view the transitional fold projects as a thickened and rigid prominence. The trachomatous granules are sometimes disposed in rows like a string of beads; while the trachoma granules are likewise shown to exist in the conjunctiva tarsi, they are less prominent and less clearly defined, owing to the close adherence of the conjunctiva to the tarsus in this situation, consequently we discern them, when the hypertrophic papillæ do not obscure them, as minute bright yellowish points, embedded deep down in the deeper structures. The microscope reveals that other parts of the conjunctiva of the eyeball, such as the semilunar fold, conjunctiva bulbi, etc., are not wholly exempt from the trachoma granules. This constitutes the so-called granular type of trachoma, so that we may justly classify trachoma into two classes: 1, papillary trachoma; and 2, granular trachoma; but the distinction can not be so clearly and emphatically made as to enable us to say that this is a case of papillary trachoma, that a case of granular trachoma, inasmuch as frequently in the same case we find the two processes associated, and while such a classification would be quite scientific, yet such is not from a clinical standpoint of any particular importance as the treatment is essentially the same in either case.

Among the results of trachoma are pannus, lid distortion asserting itself under the form of entropion (the turning of the lid inward toward the eyeball), and ectropion the turning outward of the lid from the eyeball), symblepharon posterius and anterius, xerosis conjunctivæ, in which we have dry degenerated patches devoid of secretion here and there, and corneal opacities caused by cicatricial deposit following ulceration, trichiasis (abnormal disposition of the eyelashes). Madarosis and tylosis, baldness and thickening of the lid borders respectively are all disagreeable sequelæ of neglected and maltreated trachoma, and will receive mention under their proper heading during the discussion of the treatment.

Causation.—We are, in the light of modern views relative to trachoma, able to say that the primal origin of the disease is discharge from a chronic blennorrhea, which being transferred through the medium of the fingers, soiled linen, contaminated wash basins, etc., to the healthy conjunctival sac finds favorable soil for its development; after a variable incubative period a form of granular conjunctivitis or trachoma shows itself which depends for its severity, so far as its inflammatory tendencies are concerned, upon the character of the case from which it took its departure, as well as upon the character of the soil upon which it thus propagates. It is to Piringer that the credit is due of thus irrefutably deciding the origin as well as the subsequent features of the disease. He was able by inoculating eyes already blind, to determine that the disease is essentially dependent, notwithstanding all its variable characteristics, upon one infectious element, which by reason of the different anatomic conditions of the developing soil will assert itself sometimes in one form, sometimes under another; so that it leads us to conclude that possibly we shall finally view the variable types of granular conjunctivitis or trachoma, as well as other simpler types of conjunctival inflammation, as peculiar forms of inflammation or irritation consequent upon the special type of irritant.

With respect to the career of the affection, the hypertrophic elements and the associated discharge increase to a variable degree in different cases and then finally fade away, while cicatricial deposits replace

the hypertrophied areas, and consequently the conjunctival destruction and subsequent cicatricial contraction are directly dependent upon the number and size of the hypertrophic elements and the abundant secretion. So that with respect to the question of treatment two primal indications confront us, namely, reduce the size and number of the hypertrophic papillæ and check the secretion. And fortunately, while we are confronting one indication we are combating the other. Heretofore silver nitrate and copper sulphate have been largely utilized, both to reduce the enlarged papillæ and to diminish the discharge and favor the disappearance of the granulations, and these remedies are still employed and are regarded by many as all sufficient. The rule governing the use of silver nitrate and copper sulphate respectively is to apply silver nitrate when the secretion is profuse and irritative manifestations marked; while copper sulphate finds fitting application in cases of diminished secretion, and little or no irritation. Mercury bichlorid in concentrated solution, 1 to 500, was first applied after the so-called grattage in the clinic of Abadie, and by many is highly esteemed in the management of obstinate cases of trachoma. We must conclude, however, that all treatment should be directed towards assuring abject cleanliness, whether this be accomplished by simple ablution, or by means of antiseptic precautions. While the method of exciting an inflammatory reaction, either by means of medicaments, or by the more active method of jequirity infusion, as advocated by De Wecker (justly superseding the old-time method of inoculation with blennorrheal pus) the methods of peritomy or syndectomy, or incising the conjunctiva around the cornea, scraping or scarifying the conjunctiva as advised by Grüening, are useful in certain cases. It has been my experience to find that these heroic measures have all been carried to extremes, to such an extent indeed that one of the most important indications in the treatment of trachoma or granular lids has been overlooked, namely, that the inflamed parts should be subjected to a period of rest, and any measure which fails to encompass this end utterly fails of its object. To institute this purpose, and at the same time to meet the other indications of resorption of the hyper trophic papillæ and granular masses combined with a proper degree of antisepsis, I was induced to apply insufflations of papoid (*carica papaya*), the new digestive ferment combined with boric acid, and found that not only did it act efficiently upon the thickened masses, but even in those cases seen in the later stages of trachoma where trachomatous pannus had supervened, I found that the pannus was appreciably thinned, and the inflammatory reaction diminished. I believe the honor of having first instituted this type of treatment belongs to me, and certainly it has proved in my hands a most efficacious method. I agree with Fuchs in his conclusions, after trying all of the methods, both irritative and conservative in their tendencies, that all harsh surgical methods should be eschewed in trachoma during its early and transitional stages, and should be reserved for the correction of the numerous disastrous sequelæ, such as pannus, entropion and ectropion, distichiasis and trichiasis, lachrymal obstruction, madarosis, tylosis, corneal opacities, etc., which have all been heretofore noted as results of the typical siege of trachoma or granular lids.

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PROFESSOR KOCHER ON MODERN PROJECTILES IN WARFARE.

BY CHARLES G. CANNADAY.
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"In the time of peace," it has been said, "prepare for war." This necessary evil must sooner or later come to all countries, judging from the past; its evil consequences are sufficient when happy homes are robbed of fathers, husbands and sons, but when the projectiles are of such a nature as to produce great destruction of tissue, owing to shape and velocity, it becomes all true philanthropists to assist the Red Cross, which will figure so conspicuously in future Italian wars, to bring about such a change in projectiles as will cause the least destruction of tissue compatible with "disabling the enemy and causing him to retire from the field." During the riot in this city in 1893, I had the opportunity of seeing the great amount of mutilation and serious wounds produced by the modern firearms in the hands of our military company—those not instantly killed are so mutilated by large projectiles that permanent disability for manual labor is the rule, while the chances for infection from the wounds are very much increased. It becomes all civilized nations, from a humanitarian point of view, to repudiate the idea expressed by Shakespeare in "Henry IV.," that "the arms are fair when the intent for bearing them is just," and so construct all projectiles as to disable with a minimum amount of mutilation—rendering survivors more useful and comfortable. With this end in view I have submitted an abbreviated report of a lecture to which I listened at one of the general meetings of the International Medical Congress in Rome, Italy, in April of this year, delivered by Kocher, of Berne, Switzerland, than whom no one is more competent to speak, as his researches in this line have been very exhaustive, and his investigations respected and indorsed by the civilized world.

This subject may embrace all of us in its scope, and the military and naval officers and authorities should seriously consider this lecture on the subject of "the improvement of projectiles from a humanitarian point of view." Kocher said:

"The reason why ancient Rome, whose hospitality we are now enjoying, acquired the immortal glory which it maintained through the classic ages till our own times, is to be found in the warlike character of its first inhabitants, in the *Virtus Civis Romani*. Notwithstanding the great progress which has taken place in the field of intellectual activity, it is still the case that those nations become arbiters of the world who are always ready to sacrifice their life and all they possess for liberty, truth and justice.

"Military service is a duty which extends to all the citizens and therefore all take an interest in the necessary and inevitable consequences of war. Women and sanitary associations vie with each other to diminish the sufferings of the victims, as also the Red Cross, whose representatives showed us two years ago in this same city the splendid results obtained by them.

"But all this is of no use (I speak simply from a surgical point of view) if modern firearms bring such devastation in the contending armies, while they should only put *hors de combat*—if they mutilate instead of simply wounding. Twenty-five years have

not passed since it was universally recognized that perfected firearms cause enormous damage in the human body. This general opinion is confirmed by the recent communications of Démosthène, Chauvel, Nimier, Bogdanik, Sklissowsky, Morosow and Trauber, by the observation of Kabars and finally by the interesting experiments executed by order of the Prussian Minister of War, by Dr. Schjerming, all of which show the terrible effects of modern bullets. After this must we await further improvements or must we resignedly accept the conclusions of Surgeon-General Dr. Von Coler and of Dr. Schjerming, namely, that with the new rifle life must absolutely be lost?

"The object of war between civilized nations is not, as among savage people, to kill the greatest number of combatants, but to disable the enemy and to oblige him to abandon the field. Nevertheless there are many unexpected deaths caused by injuries to vital organs. But the modern guns surpass greatly this scope, because they tear or destroy the tissues of the body, exposing the victim to the risk of losing his life even through non-vital injuries, and either oppose or prevent entirely the reëstablishment of the normal functions. Guns have become real explodent firearms, which are prohibited by international agreement.

"In order to eliminate the damages produced by these arms it is necessary to know the effect of the explosive projectiles, but unfortunately on this matter the opinions of the many authors are too different.

"I will demonstrate, considered by twenty-five years of experience, in what really consists the explosion and by what it is caused; this will be the subject of my lecture. The action of the bullet is different as the object which it strikes varies. We shall therefore distinguish three separate categories in the human body: Elastic tissues, tissues rich in liquid substances, and rigid tissues.

"In elastic tissues the bullet does not explode, at least not immediately, even if fired out of the most modern rifle. Large lacerations of the skin are due to deeper explosions, such as those which take place in the vicinity of the bone, and without these external lacerations are not to be found. In some elastic tissues we can only observe the point of entrance and exit of a bullet whose initial velocity is of 600 to 750 meters; we can not trace any hole at all as the tissues after having been forced aside, resume their former position.

"The effect of an explosion may be observed with far greater facility in tissues which contain an abundance of liquid substances, and is naturally more terrible in those tissues which more abound in them. Brisch was the first who had recourse to hydrostatic pressure in order to demonstrate the effect of an explosion in the cranium; Garfeuil, Heppner and Küster applied the same principle to epilepsy, and I have been able to show by means of numerous experiments the general importance of liquids in the tissues. The action of hydrostatic pressure may be demonstrated on tin boxes containing substances more or less rich in water. The effect of the explosion differs greatly if the box contains fresh horse flesh instead of dry, damp cotton or sawdust instead of dry.

"Here are some elastic laminæ that present a very small hole when the velocity of the bullet is small, while enormous rents are made by it when the velocity is at its maximum. These violent effects are caused both by leaden and by steel bullets; it is therefore impossible that they should be produced by the deformation of the bullet, as it is proved that steel does not undergo any alteration of shape. In any case it is important to observe how the explosion is influenced by the different degrees of deformation if the area which is struck becomes larger.

"Demonstration of the effects of exploding bullets on recent epiphyses, on the glandular and visceral organs and on the muscles. The degree of intensity of the explosion gradually augments with the increase of velocity, while we can only talk of hydraulic pressure in the case of maximum velocity and on parts like the cranium.

"The effect is seen in its full intensity only if the distance is great enough; but also in open tin boxes, where the water is not hermetically closed as in a hydraulic pump a laceration takes place. It is therefore better to abandon the name of hydraulic or hydrostatic pressure and to use that of hydrodynamic laceration.

"The speaker afterwards shows the effect of explosions on flexible substances, such as soap or glass, in which we may with certainty establish, by means of comparative measures of weight and volume, whether we have to deal with a simple shock or with a missile that produces at its maximum velocity the maximum degree of dilatation.

"Also here we find an augmentation in the explosive effect even though there be no rotation or deformation and we must recognize that the intensity of the explosion does not depend from these factors.

"The real nature of an explosion can only be understood if its effects are studied on a solid body. To this end we can fire a bullet at a slab of stone, and we will ascertain that the shock transmits itself with great violence a great distance. The difference between a simple crack and a real laceration may very well be distinguished in a glass slab if the velocity of the missile is not at its maximum, in which case a number of cracks are produced instead of a neat small hole. The best manner of observing the perfect analogy of the effect of the dry explosion with those of hydrodynamic pressure on a tin box is to fill this box with small shot or pieces of stone.

"Numerous illustrations demonstrate the analogy of explosion in dry and fresh bones; which is then the essence of the explosion? Kocher has been able to demonstrate by determining the velocity of the bullet directed to different objects and also on the human body, that for maximum velocities a greater amount of active energy is lost than for the small ones. This augmentation in the loss of active energy is caused by the velocity being too great to pierce the target and by remaining longer imbedded in it produces an unequal shock. By means of measures it is possible to ascertain that the loss of velocity and active energy is greater in bullets of heavy caliber; and consequently the lacerations will be greater.

"Conclusions to improve the projectiles from an humanitarian point of view:

"1. The cause of the laceration can not be avoided because it depends from the augmentation of velocity.

"2. It is necessary then to modify the importance of the laceration which happens.

"3. By diminishing the area struck:

"*a*, reducing the caliber of the projectile to five to six centimeters;

"*b*, preventing the deformation by giving it more compactness especially in the point;

"*c*, by making the anterior extremity sharper so as to increase its strength of penetration;

"*d*, by augmenting the rotation so as to prevent the oblique penetration.

"Ulterior experiences will demonstrate if to solve the problem from an humanitarian point of view it will be necessary to use again very small copper projectiles or projectiles with steel coating and point. *The results already obtained* by the introduction of the steel coating advise us to follow on the same track: 1, even after the worse results there are no more muscle and lung lacerations; 2, the fracture of bones, is totally limited in extension and intensity, so short the hole of exit is, according to the experience of Coller and Schjerming, reduced for 200 meters distance from 2 to 3 centimeters while before it varied from 7 to 13. One of the greatest improvements from a medical point of view is the reduction of the hole, as the healing of the wound is then materially facilitated and dangerous complications are rendered less frequent. But the extraction of large fragments of bone, and injuries to vital organs such as the heart, the brain and the lungs will always make numerous victims, and also in the next war hundreds of soldiers will end their life on the field of battle.

"But the great mass of our youth who courageously march into the grim jaws of war will be protected by a new Pallas, armed with the shield on which shines the Red Cross."

SOCIETY PROCEEDINGS.

The Canadian Medical Association.

The annual meeting of the Dominion Medical Association was convened in St. John, N. B., August 22 and 23, 1894. The meeting was well attended by medical men from nearly every province, the larger number coming from the Maritime Provinces. The Association had not met in St. John before for twenty years. Fraternal delegates were introduced: Dr. J. M. Jonah, of the Maine Medical Association; Dr. Bulkley, of the AMERICAN MEDICAL ASSOCIATION.

The chair was occupied in an able manner by DR. T. S. HARRISON, of Selkirk.

The subject of

THE TREATMENT OF EPILEPSY

was first taken up, the paper being presented by Dr. Hattie, of Halifax. He gave a description of the various changes that have been said to take place in the cerebral cells during fits of different kinds, and pointed out that the causation might be due to the influence of some irritant acting upon the cerebral cells, which put them in a state of excitability, or which, by being produced in the encephalon, and not eliminated quickly enough, by a nerve explosion was gotten rid of—that the convulsions were due to an abnormal functioning of the cells in some part of the nerve centers, the location determining the character of the seizure. This poison might be generated in the system. If this were the case, the rational treatment would be the eliminative and antiseptic one. This he had tried, by giving in addition to the bromid of potassium, beta naphthol. The results were very gratifying, the number of fits per patient having been materially reduced.

DR. MUIR then gave the history of

A CASE OF TUBERCULOSIS OF THE ARM, BETWEEN THE ELBOW AND THE WRIST,

which had been in existence for some fourteen years, with all the typical symptoms (the tubercle bacillus being present), which, after being scraped, was infected with erysipelas. Subsequently complete cure took place.

DR. SHEPHERD reported a case of cancer cured in this way.

DR. CAMERON said he had tried to inoculate some cases of malignant growths with the germ of erysipelas, but had failed to get it to work, probably because the sarcomatous and carcinomatous germs overcame the invaders.

SIR JAMES GRANT said that he had seen whooping cough very materially relieved in children who had been vaccinated. He had tried vaccination in certain cases of psoriasis he had had, with extremely gratifying results. He believed there was much room for study along this line.

The President of the Association, DR. HARRISON, took as the subject of his address his experience in medical matters during the last half-century. That long ago he settled in the early wilds of Ontario, near Lake Erie. Those were the days of ague, bilious remittent fever, murrain in cattle, and other diseases which now, since the country is cleared up, have become almost extinct. He gave a graphic clinical history of these various diseases and the different forms of treatment employed, both before the doctor arrived in the settlement and after, by those who sought to charm the disease away and those who sought to treat it according to the tenets of Thompson. Whisky, in those days, was considered by the people to be the sovereign remedy. Some doctors bled, blistered and salivated. The President told of difficult experiences he had had alone far removed from medical help in various kinds of operations, major and minor. The latter part of the paper was an advocacy of the establishment of uniform examinations for all who wished to practice in the Dominion, and that the standard should be that of the highest provincial standard. The President was accorded a hearty vote of thanks for his address, and a committee was appointed to consider the matter of reciprocity discussed in his address.

The subject of

APPENDICITIS

was discussed by DR. BELL, of Montreal. He reported forty-eight cases; forty of them operated on with recovery; five not operated on; and only three deaths altogether. He classified his cases into the gangrenous, the perforative, and those bound in with adhesions. These cases should be watched, he maintained, by a surgeon from the first, as little could be done for its relief medicinally. He advocated surgical interference in nearly all cases.

DR. HINGSTON thought the operation was performed unnecessarily. No young man should attempt to enter the abdominal cavity without first consulting one or two others. He had prevented the operation twenty-five or thirty times, and only regretted this step in one case. He was strongly in favor of conservatism.

DR. GRANT, Ottawa, spoke of two cases he had had which appeared to be fit ones for operation, but one was in a gouty subject, the other in a rheumatic. He did not operate and they recovered. It was very difficult to know what to do in these cases. He did not believe appendicitis was due to the presence of foreign bodies in the organ.

DR. SHEPHERD pointed out that the surgeons got the worst cases; so it was difficult to say just what the number of cases was which were operated upon as compared with those that were wholly treated medicinally. His idea was to operate after the acute attack had subsided in the interval. He attributed the tender point of McBurney, not to the appendix, but to the inflamed condition of the mesenteric glands;

for the appendix might be found on the right side in the pelvis, or up under the liver.

DR. STRANGE was in favor of non-interference until there was the presence of a tumor and pus. He had refrained from operating during the acute stage and had not regretted it.

MR. CAMERON, of Toronto, said he followed Mr. Treves in this matter; to wait until the pus formed, open and drain. He considered it unfortunate that the experience of a hospital surgeon of skill, should determine the matter one way or the other. In a possible forty-eight cases he had had in which he had followed out the above treatment, he had had, probably, Dr. Bell's figures reversed. The interval he believed to be the time to operate.

In replying to the discussion on his paper, Dr. Bell made a strong plea in favor of his statement, "one should always operate." It was generally agreed that no one knows when to operate. If the patient were left at any moment, perforation might take place. However, in the forty cases he had operated on, thirty were perforated, and abscess was present at the time of operation. In three the appendix was wholly gangrenous. And in such, he said, one could not wait for the tumor formation or the abscess, because there was none. In two the appendix was bound down; in three the appendix was not perforated, but gave rise to urgent symptoms, yet there was no abscess found. He used to follow the waiting treatment, but found it unsatisfactory. The mortality was much greater than that of his eleven months of the new plan. The greatest mortality statistics for the operation only amounted to from 2 to 3 per cent. The operation, as a rule, was not difficult. He considered the plan of waiting for pus not the best surgery. The very mild cases where the symptoms passed off in say twelve hours, he would not interfere with. They were probably only cases of cecitis.

DR. MORRISON, of St. John, read a paper entitled

EYE-STRAIN HEADACHES.

It had been alleged that 90 per cent. of all headaches was due to eye-strain. This he believed to be true. Many of such were attributed to other causes, as biliousness, "womb trouble," nervousness, masturbation, over-work, etc., when the real cause was overlooked—an over-worked condition of the muscle of accommodation—ciliary muscle. This condition of the delicate muscle was brought about by attempts to correct varying degrees of astigmatism. No cornea hardly had perfect curvature in every direction; and it was these slight degrees of curvature, often overlooked even by the specialist, that lay back of these headaches. The use of cylindrical glasses, with low dioptric power, always relieved the muscle, and consequently the headaches. Constitutional treatment was also advocated, and the avoidance of those conditions of life that tended to increase the trouble.

The subject of

DISEASES OF THE OVARIES AND TUBES

was by DR. SMITH, of Montreal. In gonorrheal salpingitis, the clinical history of which he went into, the only safe treatment was extirpation. This was also the course to pursue in the tubercular form, if the general constitution were not too much infected with the poison. He advised medicinal treatment for the functional disorders of the appendages. The paper was illustrated by a number of interesting cases, and the presentation of tubes and ovaries that he had removed.

THE USE AND ABUSE OF THE VARIOUS CAUTERY AGENTS IN THE TREATMENT OF NASAL AFFECTIONS

was treated by DR. E. A. KIRKPATRICK, of Halifax. He referred first to the delicacy and importance of the nasal mucous membrane, and said that too often it was the subject of too harsh treatment. Caustics were used, perhaps, more in hypertrophic rhinitis than for anything else, and often too severely. Of the caustics he used chromic acid, trichloracetic acid, and the electro-cautery were the principal. The chromic acid he used in anterior applications, the cautery for the posterior applications. By the injudicious use of caustics he had seen the mucous membrane destroyed. And in some cases he had seen very serious sequelæ follow in connection with the ear; such as loss of hearing and mastoid disease.

The address in medicine was delivered by DR. BAYARD, of St. John, N. B.; subject,

THE INFLUENCE OF THE MIND ON THE BODY.

This was, he claimed, a subject of growing importance in this rushing age. Most authorities were agreed that surgery and medicine were rapidly advancing. It was also agreed that nervous diseases were on the increase, particularly insanity and neurasthenia. This was largely due to the energy, competition, worry, compulsory education, sensational novels, newspapers, speculation and unrest, which characterized the last part of this century. Another cause was the migration from the country into the town, where the strife for existence was greater and sanitary surroundings bad. Relief from this condition of affairs was largely through the instrumentality of educational reform and the employment of preventive measures generally.

As an outcome of one of the points referred to in the address, at the suggestion of Dr. Hingston, Dr. Bayard moved, seconded by Dr. Hingston, "that the system of education generally pursued in the Dominion of Canada draws too largely upon the brain tissue of children and materially injures the mental and bo ily health."

DRS. CAMERON, of Toronto and Powell, of Ottawa thought the terms of the resolution were too sweeping; that there was no specific statement as to what department of the school system was at fault, nor to what portion of the Dominion it more especially applied. Our young people, Dr. Cameron thought, were not suffering, the older people neither, from too much education. The educational system had been the subject of the best thought of our best men, and he considered the motion too condemnatory. A resolution was then passed that the matter be referred to a committee, consisting of Dr. Powell, Dr. Hingston, Dr. Graham and Bayard.

DOMINION REGISTRATION.

The committee appointed to report on the President's address, reported on the matter of inter-provincial registration. It was adopted.

DR. DANIEL moved, seconded by Dr. Powell, "that a committee be appointed in which each of the Provinces shall be represented, to draw up a form of medical act, which, after being adopted by this Association, shall be presented to each Provincial Legislature to be by them passed into law; and that the committee that brought in the report be asked to name such committee."

DR. BULLER moved, seconded by Dr. Lapthorn Smith, that a committee be appointed, with power to add to their number, to consider the best means of obtaining a uniform standard of medical education for the Dominion of Canada; and that said committee report at the next meeting of the Association. This carried.

The discussion over the above question was long and animated, and taken part in by several of the men from the different provinces represented at the Association.

DR. J. E. GRAHAM presented a paper on

SOME FORMS OF FUNCTIONAL DERANGEMENTS OF THE LIVER.

The paper dwelt on the great importance of maintaining the integrity of the hepatic cell. It acted as a guard against

the invasion of certain forms of poisons into the general circulation, such as arsenic and phosphorous among the mineral kingdom; the poison of decaying meats and old cheese, in the organic; absorption of poisons generated in a distended stomach; the specific toxines of typhoid and such diseases; and the absorption of poisons from the intestinal tract, say when constipation was present. These various poisons tended to hurt the cell, and passing into the general circulation, had their effect on the nervous and other systems of the body. In the ordinary cases of biliousness the symptoms were caused in this way. The glucogenic and urea producing functions of the liver were also discussed and the results pointed out, of their abeyance, through the damage done to the hepatic cell. As to treatment, Dr. Graham pointed out the absolute necessity of finding out the exact cause of the disturbance before rational treatment could be employed. He recommended restriction and regulation of the diet, suitable exercise to assist the circulation, proper attention to bathing, drinking of mineral water to assist metabolism, where the urea was deficient; the necessity of free purgation, and lastly, the various specific remedies recommended for this condition.

DR. HINGSTON reported

FOUR CASES OF OPERATIONS ON THE BRAIN.

The first two were for epilepsy. The first without the results hoped for. The second was operated on for cephalalgic pain, located in one spot. It had been incessant and severe for a year. The Doctor trephined and found a hydatid pressing on the brain, pediculated, which he removed. The patient made a good recovery. The next case was that of a young man, whom the Doctor presented, who had suffered for twenty years, as the result of a fall and injury to the right side of the brain. He was the subject of paralysis of the left arm, which was drawn up and flexed, the fingers also being flexed in their terminal phalanges and extended in the first. The orbicularis and zygomatic muscles and the others on the left side were spasmodic and overdeveloped, the pupil was contracted, the vision and hearing on that side impaired. On operating, a thickened portion of bone was found impinging on the brain tissue, surrounded by a cartilaginous material which nature had thrown about it. There was no bleeding upon its withdrawal. The expression of the face at once became relaxed, and the patient seemed almost complete in his facial appearance. The arm had improved. Dr. Hingston recommended the use of a large trephine, two inches in diameter, for these operations.

DR. SHEPHERD, of Montreal, gave the history of a case of removal of the entire upper limb for a chondro-sarcoma involving the shoulder-joint; also of the removal of a large enchondroma of the pelvis The first operation had not been done often, his being the first that been done in Canada. Drs. Hingston, Cameron, and Steeves discussed the paper.

DR. BULLER read a paper on "The Present Status of Asthenopia."

DR. INCHES, of St. John, N. B., read a paper entitled

THE PREVENTION OF TUBERCULOSIS,

in which he advocated the necessity of increased activity on the part of the profession, the public and the government in dealing with this dangerous disease. The patients themselves needed much instruction in regard to the destruction of the sputa, so as to lessen the danger of infecting others in the house. Even in well kept consumptive hospitals there was a little danger. He dealt with the difficulties connected with notification and registration and isolation. He had found it very difficult, even among his wealthy patients, to secure isolation and fresh air; and it was infinitely more difficult to secure such among the poorer classes. Special sanitaria, he maintained, should be provided, and in every instance where the patient was not properly looked after at home, he should be sent to such places. Until such a time, for there are very few as yet, those cases should be reported when preventive measures were not carried out thoroughly at home as recommended by the patient's physician.

DR. L. DUNCAN BULKLEY, of New York, gave a paper on

THE TREATMENT OF SKIN DISEASES.

More success would come to the general practitioner in the treatment of the skin if more attention was paid to each individual case. He advised careful inquiry into every detail of the patient's system and habits The history of the eruption; careful inquiry as to former eruptions; family tendencies as to presence of asthma, rheumatism, etc., all should be made a note of. If medical men knew eczema, acne, syphilis well, they would be able to treat the great majority of their cases satisfactorily. As to eczema, too much was often done; it was over-treated often. More and more he had grown to know that much depended on constitutional treatment in all these skin affections. The correction of some fault in diet or habit in life was sufficient to effect relief. The Doctor pointed out some of the principal points in the management of acne, syphilis, psoriasis and urticaria.

THURSDAY EVENING.

The report of the committee appointed at the last Association to consider the matter of the establishment of a pharmacopœia was received and adopted. On motion of Dr. Starr, seconded by Dr. Macdonald, it was moved, "That the same committee be requested to correspond with the different medical and pharmaceutical associations with regard to the advisability of publishing a pharmacopœia, taking the British Pharmacopœia as a standard." Carried.

THE PREVENTION OF CONSUMPTION,

was the subject of a paper by DR. J. F. MACDONALD, Nova Scotia. He advocated the bringing the matter of the contagiousness of the disease before the people by means of the secular press; by the establishment of philanthropic societies for the discussion of the matter, and the adoption of practical measures for the treatment of the cases. He advised the system of registration; a careful system of disinfection; government inspection of infected places; the establishment of sanitaria, and the enactment of laws to prevent the infected from spreading the infection.

DR. H. D. HAMILTON read a paper on "The Adhesions of the Soft Palate and Their Treatment."

DR. J. T. STEEVES, of St. John's Lunatic Hospital, read a paper entitled "A Medico-Legal Romance." It was discussed by Drs. Muir, Macdonald, Morrison, Christie, Hattie and Travers.

DR. FENWICK then presented a paper on "Hysteropexy."

The Association then adjourned to meet next year in Kingston, Ontario.—*Dominion Medical Monthly.*

NECROLOGY.

HERBERT GOUDE, M.D., who for fifteen years had been resident medical officer at the Highgate Smallpox Hospital, has recently died in London, in his forty-eighth year. He was a man of unquestioned fitness for his position as a successor of Dr. Marson at the Highgate institution, and his loss is spoken of with universal regret. He was able to continue the observation and testimony of his predecessors there and, as recently as in May of last year, was enabled to write regarding the unbroken record of fifty-eight years, that no nurse or servant had contracted variola even in a modified form, with the single exception of a gardener who evaded vaccination; and this, too, despite the fact that nurses have actually and accidentally inoculated themselves with variolous matter. This he may well term the crucial test of vaccinal protection, and the unanswerable argument in favor of the operation. Dr. Goude was the author of a full history of his hospital, from the time of its foundation in 1746 at Battle Bridge, King's Cross, up to the present time. As the *Lancet* says: "He sought to enforce the great lesson of the value of vaccination that is still unlearned by thousands, and history will not fail to own its obligations to him and his fellow-laborers."

HANBURY SMITH, M.D., died at Brooklyn, N. Y., on September 12, aged 84 years. He was a native of Staffordshire, England, and a graduate in medicine at a London school, in 1831. He practiced for several years in Stockholm, Sweden. He came to this country in 1847, and resided in Ohio about ten years. In 1859 he took up his residence in New York city, and became a pioneer in the introduction and production of mineral waters for the use of the profession and the public. He is survived by one son, Mr. Bernard Smith at whose home he died as above stated.

HENRY HOFFMAN-DONNER, M.D., the eminent physician, humorous writer, and poet, died at Frankfort-on-the-Main, September 20, aged 83 years. His chief humorous work was "Struwelpeter," which ran through 150 editions and was translated into many languages.——Dr. Rush, of Macon City, Kansas, September 14.——R. P. Watson, M.D., September 24.

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SATURDAY, SEPTEMBER 29, 1894.

ON ARTIFICIAL TEETH.

A writer in *Les Noveaux Remedies* for Sept. 8, 1894, says that "the teeth of the Americans are without doubt the worst in the world." "Also," says this most interesting person, "this eminently practical people have long since renounced the employment of the inferior products furnished by nature, for their substitute, artificial teeth." The writer then produces some statistics to show that some 8,000,000 false teeth have been sold in the last year. He also cites the statistics of M. MAX DE NANSOUTY, who has made a calculation to show the number of pounds of gold used in filling teeth in the United States. This amount, he asserts, is not less than 800 kilograms which represents about 2,500,000 francs. All this precious metal we are told, "is buried with the Yankees when they die," and on this assertion this MARTINUS SCRIBLERUS splutters, "supposing that this continues during some hundreds of years, the unpitying statistician estimates that in three centuries, the cemeteries of the United States will receive a value of 750,000,000 francs in fine gold, equal to the money value of the gold which actually circulates in the country. There is a new California in prospect for the gold seekers of the twentieth century!"

We did not need this sneering ebullition to let us know the great advance America has made in civilization and in the humanities. The French Government sent one of the best native dentists in Paris to attend the International Medical Congress of 1887 and to report on the dental schools and the state of dentistry in the United States. His report was printed in an elaborate volume entitled "*l'Art Dentaire des Etats Unis.*" In that official report, which is complimentary to the United States in the highest degree, the writer regrets that France is so far behind the United States in the dental art. The superiority of American dentists has been acknowledged by the world for more than two decades, and an American dentist (EVANS) in Paris received more decorations of honor than any professional man of his time, whether in his particular field or out of it.

Nor is this superiority the result of the vast number of cases of bad teeth, as our contemporary would have us believe. It is because the Americans have passed beyond the dentistry of the Middle Ages, and realize that sound teeth are conducive to longevity. The filling of teeth is neither new nor peculiar to Americans, and it is doubtless true that the ancients understood the care of the teeth much better than the modern French. The third ÆSCULAPIUS is usually given credit for being the first to extract teeth, but the Egyptians understood their preservation well, and GALEN introduced into the carious tooth a pellet of wax for the toothache, and as a permanent cure he first cleared the cavity with acid and then filled it with powdered pyrethrum with resin or wax as an outer covering. Indeed, the ancient Romans took great care of their teeth, according to PLINY, washing and rubbing them repeatedly, and as we learn from HORACE (Sat. I.) when they lost them they had them replaced with ivory teeth, and when loose they bound them with a thread of gold. Tripoli powder ("red soda") was much used as a dentifrice,[1] and the ancient surgeons, subsequent to CELSUS, punctured alveolar abscesses with the red hot iron. The putative father of French surgery, GUY DE CHAULIAC, (its real father was HENRI DE MONDEVILLE) made a serious plaint that the pulling of teeth had been abandoned to barbers and dentists, and he held that the operation was sufficiently important to be attended to by physicians, but even GUY recommended the filling of cavities with aromatics and resinous substances. SPRENGEL asserts that JOHN ARCULANUS, the Veronese, (quoted by RHAZES) was the first to use gold leaf for filling teeth, but judging from the remarks of our contemporary, his recommendation fell on stony ground, when it fell in Gaul.

In the matter of the construction of artificial teeth, ivory was alone used, down to the time of ANTOINE NUCK, (he of the Canal) who insisted that the only proper ivory was from the tusk of the hippopotamus. DUBOIS DE CHAMANT (1777) was probably one of the earliest to use porcelain teeth. But, like every solid advance in the other branches of medicine, it has been a slow progress, and the present advanced position has been reached by regular steps. The country of our contemporary has done little or nothing in the last century toward the advancement of this branch of surgery.

[1] One can scarcely resist a reference to Catullus' "Upon Egnatius" and "To the frequenters of a certain Tavern" wherein the dentifrice used by the Celtiberians is held up to ridicule.

THE BUDA-PESTH CONGRESS.

As the detailed reports of the Eighth International Congress of Hygiene and Demography are received it becomes apparent that its practical value will be reaped quite as fully by those who staid at home as by those who attended the sessions. It is complained that the division of the Congress into twenty-six Sections made it impracticable to secure a fairly representative attendance at any; from twelve to twenty delegates seems to have been the usual number who could get together on schedule time for any given Section, while some of the Sections were closed entirely, no one putting in an appearance.

Even at the general meeting, on the last day of the session, less than fifty persons, according to the London *Lancet*, assembled to pass upon a long series of resolutions, submitted orally in various languages, and dealing with matters in some cases highly technical, in others involving questions of international importance.

The *Lancet* adds that this "procedure drew forth some vigorous protests from DR. BILLINGS, DR. LOEW, of Vienna, and PROFESSOR CORFIELD, and it is to be expected that such influence and authority as the resolutions may have, will be derived solely from their adoption by the various Sections."

THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

This Association held its seventh annual meeting at the College of Physicians in Toronto, Canada, September 19, 20, 21, under the presidency of DR. GEORGE H. ROHÉ. This session was well attended by its members and visiting physicians from Canada and the United States, and proved to be the most interesting and enthusiastic convention in the history of the Association.

The papers presented were of an exceptionally advanced grade from a scientific point of view, while the discussions were animated and full in detail. Eighteen names were added to its list of members and DR. CARSTENS, of Detroit, elected the new President. The profession of Toronto left nothing wanting in caring for the welfare of those in attendance.

The yacht ride on the lake followed by luncheon at the Yacht Club was invigorating to the fatigue of long travel and attendance at the sessions. The annual dinner was given at the Athletic Club with His Excellency, the Lieutenant-Governor of Canada as the honored guest.

THE AMERICAN MEDICAL ASSOCIATION.

A medical gentleman on whom a JOURNAL representative called, said that he did not care to belong to the ASSOCIATION, "because," said he, "the organization is simply a mutual admiration society." Exactly so, and if our fugacious friend wishes to be thoroughly admired, he, too, should join the ASSOCIATION, and assist in the noble work of making it the greatest medical organization the world has yet known. The members of the ASSOCIATION may have their little disagreements on the floor of the convention, but they do sincerely admire each other, for they are all engaged in trying to do their best to advance the interests of the profession. Cranks and pessimists exist in every calling and profession. The AMERICAN MEDICAL ASSOCIATION possibly has its share of them, but the great heart of the organization pulsates with affection toward all Fellows of the ASSOCIATION, and kindness toward all mankind.

Let all true physicians lose no time in coming into the ranks, as effective missionaries in the cause of medical science. Let them reflect what a great power our profession would be were its members only united, and where can they unite with more propriety than under the broad banner of the ASSOCIATION? Let them remember that in the Section work of the ASSOCIATION there is ample field for their highest and best efforts in the cause of scientific truth. The index to the Transactions shows the name of every professional leader American medicine has known, up to the last decade, except those who had passed from the field before its organization. The great work of American medicine in the fifties, in the war period, and the decade immediately following, is set forth in the annual volumes, and medical history would be the loser by their extinguishment. We doubt not that the glories of the past may be surpassed by an even more brilliant future, but valuable work ought not to be frittered away by founding new and exclusive societies. Let us all belong to our local, State and National organizations, as a patriotic principle of devotion to our chosen profession.

THE JOURNAL.

The Fellows of the ASSOCIATION may congratulate themselves on the new and completely equipped office which they now possess. The new machinery comprises all that is necessary to have the JOURNAL and all reprint work done by its own force. The moving was effected without friction, and the JOURNAL *was issued last week at the usual hour.* Those of our contemporaries who know what it is to move a printing office with all its accessories will, we are sure, appreciate the statement. At an early day we will print an illustration showing the new press and composing room. One of the new presses will print 2,300 impressions an hour, and another 2,000. The rooms assigned the Editorial and Business Departments of the JOURNAL are comfortable and convenient.

Blank Applications for membership in the ASSOCIATION, at the JOURNAL office.

CORRESPONDENCE.

Was It a Case of Subacute Peritonitis?

GRAND ISLAND, NEB., Sept. 20, 1894.

To the Editor:—I wish to report the following peculiar case and to ask the opinions of some of the many members of the ASSOCIATION as to the etiology and origin of the trouble:

Mrs. D., aged 27, widow, almost three years; mother of three children, youngest 6 years and 8 months; aside from constipation of about eight years' standing, and an occasional sick headache, was considered healthy. Was taken with sharp colic pains in the stomach and upper abdomen on the morning of August 2. Saw her about 7 A.M. She located the onset of the pain in a small spot in the median line, just below the ensiform cartilage. She had eaten nothing hurtful. There was no tendency to vomiting, or diarrhea, and the temperature was normal. The pain was quickly subdued by a hypodermic of morphia one-fourth grain. Hot turpentine cloths were applied to abdomen; hot water given to drink, and I directed that as soon as she was easy she should take half an ounce of ol. ricini. Bowels moved freely between 4 and 5 P.M., which provoked some pain, and by 8 P.M. pain was so severe as to necessitate the repetition of the morphia.

August 3. She was fairly comfortable, and having made arrangements to move to another part of the city, just before she was taken sick, and as she seemed able, on the morning of the 4th of August, she was moved that day. I did not see her again for three days, and although she had not felt right she did not think it necessary to report to me. At this visit, 9 A.M., August 8, her temperature was normal and there had been no chill, but she had an uncomfortable feeling in the rectum quite low down.

I should state here that in October and November, 1893, she had had a small abscess, which pointed, and was opened in the right side of the perineum, three-quarters of an inch from the anus. A fistula resulted which opened into the rectum above the external sphincter. I laid it open, curetted and packed with gauze Dec. 25, 1893. There was nonunion of the divided muscle, but she had fair control. Thinking her present condition might be due to a recurrence of the rectal trouble I examined the parts, and found a swollen and somewhat tender condition of the anterior rectal wall with a decided tumefaction just inferior to the cervix uteri.

I prescribed syr. ferri iodid in dram doses after each meal, hot rectal and vaginal douches and liquid nourishing diet. This relieved the condition in a few days, and with the exception of a return of pain quite severe on Sunday afternoon, August 12, she continued to improve; was up and around most of the day; her appetite, which had been poor for almost two weeks, became quite good,—to use her own words "she could not get enough to eat;" bowels moving normally sometimes twice a day. She continued to improve, and on Sunday, August 26, had taken a short pleasure ride. I saw her the next day, and as she was feeling so well I dismissed the case.

Everything seemed to be doing well until 6 P.M. of August 29, when, on arising from the supper table she was seized with a sharp cramp, like pain in the same region as her first attack. It was intermittent in character, and some were not as severe as others. Thinking it would cease after a time, she did not call me until 10 P.M. Upon careful inquiry and examination I was fully convinced that the seat of the pain was in the small intestines near the stomach, and that there was total absence of pain in the region of the cecum, umbilicus or hypogastrium. I gave morphia sul. one-fourth grain, atropia one one-hundred-and-fiftieth grain, and while waiting the effect took the temperature in the mouth, axilla and vagina, and found it normal in each place. Pain ceased without further use of a sedative, and she remained easy until 8:30 of the morning of August 30, when the pain commenced to return, which was as easily relieved as before. For several days she had been eating liberally of fruits and watermelon, but as she had assured me that her bowels had acted freely on the morning and afternoon of the day of the attack, I gave her no physic at all until Friday the 31st, when I gave Hg. chlorid mite 10 grains, sod. bicarb. 10 grains. There was as yet no rise of temperature, no chill, and no vomiting.

The rest of the clinical history I have copied from my notes taken as the case progressed.

August 31, 9 P.M. Pulse 90; temperature under tongue 101; some pain, but bearable; bowels not having moved, repeated the dose of the mild chlorid. Gave morphia and atropia; directed that she commence at 6 A.M. and take sal. Rochelle in teaspoonful doses in half a glass of water every half hour until bowels moved, or until I should see her.

September 1, 9 A.M. Pulse 90; temperature 101; no movement of the bowels, rested good all night, and is not in pain now; has vomited twice since 7 o'clock large quantities of what appears to be feces; has some pain in the descending colon above the sigmoid; says it is not severe and is not aggravated by movements of the body. Abdomen distended but symmetrical and not tympanitic. Placed her in the knee-chest posture and gave per enema over two quarts of warm soap water, which is evacuated with difficulty; discharges freely for a few seconds, then stops suddenly. The water returns unstained. She can get out of bed unaided, and without increasing the pain; continued the Rochelle.

September 1, 9 P.M. Pulse and temperature normal; has had no sedative for twenty-four hours, and is not in pain. Bowels have not moved; gave two enemas of the soap water, and the second was followed by the evacuation of about one quart of liquid feces, normal in odor and appearance. Another enema immediately following this brought away a small cluster of grape seeds, skins, and some fecal matter. Stopped the enema for the night, gave morphia and atropia, and left her at 10 P.M. feeling fairly comfortable.

September 2, 9 A.M. Pulse 80; temperature 98¼. No pain, no action of the bowels, constant nausea but no feces vomited.

September 3, 8 A.M. Pulse 90 and weak; temperature 98¼. Said she had had a fairly good night; still vomits. Matters vomited are mixed with bile. Discontinued the soap water, and commenced with clear warm water with a view of using a glycerin enema; she can not expel more than one-half of the water injected.

September 3, 9 P.M. Gave an enema of about one quart when she felt an urgent desire to stool, and succeeded in evacuating about three quarts of clear water; gave glycerin 6 ounces, water 12 ounces per rectum; patient in the knee-chest posture. She could retain it but a few minutes, although she tried hard to do so. It was evacuated without result. Gave mild chlorid 10 grains, sod. bicarb. 10 grains and left her with a pulse of 90 and temperature 98¼.

September 4, 8 A.M. No action of bowels; a little vomiting but not fecal; no pain and the tenderness much lessened. She feels hungry and had taken a part of a glass of milk at 7 o'clock which she retained. Gave calomel in grain doses every hour; was called at 5 P.M. on account of pain in stomach and bowels. Think it due to the calomel. She thinks there had been quite a high fever from 2 to 4, at which time she vomited freely and felt some relief; at time of my visit, 5:45, the temperature was 100 and pulse 120. Morphia one-fourth grain, gave perfect relief in a few min-

utes. Ordered the salts in dram doses well diluted every hour. 9 P.M. She is free from pain and the temperature is normal.

September 5, 2 A.M. Was called on account of the return of pain. The usual dose of morphin soon relieved her. Then gave her per enema ol. petrolia, 16 ounces; had her stand upright to favor the oil rising as high as possible in the intestines; placed her in bed and had her lie upon the right side. She remained quiet about five hours; at the end of which time she had a slight movement of the bowels, but voided nothing but clear water. She took a small quantity of milk and one dose of the salts between 6 and 7, and had retained them. She looks rested and says she feels comfortable. Gave her per enema two quarts of clear warm water which brought away the oil but no feces. Repeated the petroleum and directed the salts to be continued as before.

September 5, 2 P.M. Upon consultation with two other physicians she was given gtts. iss of ol. tiglii in capsule every two hours until she had taken four doses, or six drops in all. Then gave ol. olive in four ounce doses every four hours. She did not retain the first dose but did the next four, taking the last at 4 P.M. of the 6th.

September 6, 7:30 A.M. Pulse 120; temperature 101½. Having decided at the consultation of yesterday to open the abdomen and examine the small gut, provided the indications were favorable, I visited her at 7 on the morning of the 6th, found her as above described, gave an enema of about one quart of warm water, which was immediately evacuated, and with it came about three quarts of water, brownish feces, with oil on the surface, the entire evacuation amounting to about one gallon, in which was a rope of mucus exudate, about one-half inch in diameter, and about fourteen inches long. She immediately exclaimed, "What a relief," and upon returning to bed, took long inspirations, and said she felt good. I immediately telephoned the physicians who came at once, and after they were informed as to the recent facts, and having examined the contents of the evacuation, concurred with me in the opinion that an operation would not benefit the case, as it was evident that the obstruction was due to a diseased condition of the small gut, and involving a considerable portion of it, and not due to mechanical obstruction. By this time, (half an hour after her return to bed), she was much exhausted; hands and feet cold and damp; external heat was applied; digitalis and hot milk punch administered internally, and strychnia hypodermically.

September 6, 1 P.M. Pulse 120 and very weak; temperature 102¼. Has muttering delirium; hands and feet getting warmer. At 8 P.M. Pulse 120; temperature 101¼; has vomited but little since morning; stomach and bowels full of liquid which emits a splashing sound when she turns or gets up. Voids urine normally and it is normal both in quantity and appearance. At 9:30 P.M. Had a small fecal movement, brownish in color and oil on the surface; although not much pain, I gave the usual dose of morphia and one thirty-third grain of sulphate of strychnia, and she rested good until 2 A.M. of the 7th.

September 7, 8:30 A.M. Pulse 105; temperature, 101; no further action of the bowels; gave a small enema of hot water, which was evacuated without result. She is clear in her mind, can get out of bed and walk without assistance. Gave a sponge bath and changed her clothes.

September 7, 12 M. Pulse 110; temperature 102; gave ol. olive 4 ounces and repeated this dose at 2 P.M. At 7 P.M., pulse 104; temperature 101¾; has not vomited since 12 M. At 8 P.M. gave per enema glycerin 6 ounces, water 12 ounces, which resulted in a movement of one quart of liquid feces. Two more movements followed in a short time but less in quantity than the first. She vomited at the same time of the first stool and it was much more feculent than the stool. At 3:35 P.M., pulse 120; temperature 102; delirium more profound.

September 8, 3 A.M. Much worse to all appearances; still recognizes acquaintances, but is much weaker and it is difficult to obtain an accurate count of the pulse. Temperature 102½ in axilla. Bowels more distended; tongue has been clean and moist throughout the entire sickness, is now dry and it is with difficulty she can put it out.

September 8, 12 M. No material change. Temperature 102¼; has not vomited since the night previous; has taken and retained ol. ricini 1 ounce and ol. terebinth x gtts. Hot turpentine cloths applied to abdomen reddens the skin; 4 P.M., delirium more profound. At 7:30 P.M. Stupor deepening but will answer when her name is spoken; put out her tongue when asked, and drank a little water. She slowly sank and died from exhaustion at 9:30 P.M., September 8.

Postmortem.—Thirteen hours after death; body much emaciated and muscles shrunken. Abdomen uniformly distended. Upon opening the abdomen a fine, whistling noise was heard and seemed to come from the left side. Intestines much distended and red at the flexures. No fecal staining noticeable anywhere. Omentum adhered to the intestines and almost atrophied. No disturbance of the relations of the viscera. An attempt to push the intestines to one side caused a free pouring out of feces from the descending colon at a point just above the crest of the ilium. A gangrenous spot and a perforation was found in the gut at this point. A ragged gangrenous spot and perforation was found upon the anterior and external aspect of the cecum, a little above the ileo-cecal valve, which had the appearance of having been caused by pressure from without inwards, as the perforation in the mucous coat was not larger than a small pea, while the ulcerated opening through the other two coats was as large as a silver dime, and had a distinct and elevated margin. No other perforations were found. Small intestine distended throughout its entire length, full of feces and reddened at the flexures. Colon also distended and full of feces but not so red. Stomach also full of liquid, one-half of which was fecal matter. The liver enlarged and rather pale in color; the left lobe lying almost wholly to the left of the median line but in other respects it was normal. Spleen and kidneys normal. Uterus small, firm, and occupying a normal position. Bladder not being noticeable was not examined. The feces were of uniform consistency, ash-blue in color and free from foreign bodies or scybala, except a few very small fragments of grape seed, and they were floating free in the feces. No stricture or narrowing of the caliber of either the small or large intestines. Stomach and pylorus normal except they evidenced the signs of the recent inflammation.

And now come the questions: What was the matter? Where the origin and what the cause? Did the beginning of the fatal sickness date from August 2? If so, why that interval of apparent convalescence? If the second attack was a relapse what caused it, and why was there such a sudden and obstinate change in the function of the bowels? For ten days prior to the last seizure the bowels had been moving once or twice daily without the use of physic or laxatives, except she was perhaps eating more fruit than just prior to the first attack. There had been increased ingestion for the last ten days but not what could be called unnatural. Neither was the action of the bowels any approach to a diarrhea. What could have caused such intense pain in the pit of the stomach and so sudden in onset without a rise of temperature for over forty-eight hours? Then it was only 101, and may have been the result of the dose of mild chlorid given eight hours previous. At no time did it require more than a quarter of a grain of morphia combined with a hundred-and-fiftieth of atropia to relieve the pain, and keep her easy six, eight, and twelve hours, and on the fourth day (Saturday September 1) she had no sedative for over twenty-four hours. Several times the hypodermic was used more for its relaxing effect on the bowels than for the relief of pain. At all times she could lie with the limbs extended, could rise suddenly to the sitting or standing posture without increasing the pain, and often when asked to locate the pain would reply: "I have no particular pain," and only once, about the sixth day of the last attack, did she refer to pain in the region of the cecum, yet the postmortem revealed a gangrenous spot, a perforation at this point and a general peritonitis. At no time did the temperature rise above 102⅓ when it was taken, and three different thermometers were used. Drs. W. B. Hoge and M. J. Gaham were the consulting physicians in the case, and were present at the postmortem—Dr. Hoge being the principal.

I have been somewhat tedious perhaps in going into the details and giving the clinical history daily and sometimes hourly, as the case progressed, but I can substantiate the accuracy and authenticity of the same, as I have given it, and my excuse for the length of this article is the peculiar features of the case, together with the utter inutility of the remedies, and different methods employed for freeing the intestinal tract.

J. LUE SUTHERLAND, M.D.

LETTER FROM COLORADO.

Mountain Fever—Practice of Medicine Act—Health of Denver.

NEW CASTLE, COLO., Sept. 1, 1894.

To the Editor:—Possibly some of your many readers may be interested in a line from "the heart of the Rockies;" not that we have much disease here, for we have very little where good habits prevail. I have seen an occasional case of "mountain fever," a form of remittent, consequent upon exposure and the hot days and cool nights of July and August, altitude causing a lower type and temperature than is found in the low, damp regions where the disease is most common. Both observation and reason commend the careful use of the still fashionable agents that depress the heat-producing centers.

An enforced idleness consequent upon "labor troubles," "a strike" in a mining camp of 1,200, when the wages were so low they could not live, though they spent annually from seventy-five to an hundred thousand dollars for alcoholics, permitted me to camp out during August in the near by "big game country." Would that many over-worked, underpaid, anxious practitioners could come up here and renew their lives among these grand old mountains, with their pure air and sweet waters, and enjoy elk beef, venison and trout before the game has all gone to join the buffalo in the "happy hunting grounds."

If, however, they come to practice their profession they must remember that at present the State is under the dominion of cranks. Knowing that it had a good medical practice act, such as we have labored for in Kansas for a quarter of a century I took with me my old diploma case containing sundry papers. When in Denver I called upon the Secretary of the State Board of Medical Examiners and presented my diploma. As the law reads: "He shall present his diploma for verification, or furnish evidence of being a graduate of a legally chartered medical school of good standing, and the State Board of Medical Examiners shall issue a certificate to that effect," I was a little surprised at being informed that the diploma was of no account, because issued by a college that did not *at that time* require a three years graded course. "No," I said, "it did not, nor did any school in America for twenty-five years after that date, but it kept step with progress, and in those days there were 'medical schools of good standing,' and but for the earnest efforts of the old schools and their older graduates progress would never have been achieved."

"We have decided that no school was in good standing when it did not require a three years course." "Then you relegate all the older practitioners to the class of non-graduates?"

"We would refuse a certificate on the diploma of any applicant if the school did not require at the time it was granted a three years course." "Then I understand that qualification is not a question with you, but graduation under recent advances, due to those who must have graduated before the advance was possible." "You must come under the next clause of the law which reads: 'All persons who have made the practice of medicine and surgery their profession for ten years and can furnish satisfactory evidence thereof to the State Board of Medical Examiners shall receive from the Board a license to continue in practice in the State of Colorado." "Protesting against your construction of the law, I present this diploma, dated 1848, as evidence of ten years practice." "We do not accept it." "Well, here is evidence of continued and honored membership in the Ohio and Kansas State Medical Societies and in the AMERICAN MEDICAL ASSOCIATION for nearly half a century." "That is not the kind of evidence the Board requires." "Then here is a commission as Surgeon of the Seventeenth O.V.I., dated Oct. 1, 1861; here are several appointments on the Kansas State Board of Health, the law requiring graduation from a reputable medical college and ten years practice as a pre-requisite to appointment." "I am very sorry to inform you that we can not accept any of these, but want the affidavit of five persons that you have practiced medicine for ten years." "As any ignorant pretender who hawks his nostrums on the streets can get such affidavits, your decision defeats the purpose of the law, the protection of the people, and debases to his level every physician of twenty-five years practice, however honored or honorable."

While in Denver I was impressed with the grand possibilities of that beautiful city, but its health reports show they are not yet attained. If the city was supplied with an abundance of water, brought uncontaminated from the mountains, and a thoroughly flushed sewage system, reaching every cess-pit and carrying all sewage and surface water to a sewage farm, located miles away on the arid plains that surround the city, making it, with far less cost, outrival the famed farms of Berlin, Germany, and leave the city, with its altitude and pure mountain air, the healthiest in the world, practically free from all disease except such as comes from the too ardent worship of Bacchus and Venus, unless the bacteriologist, who makes tuberculosis contagious, should chance to be correct. Then, alas! this home for consumptives, with their transmitted diathesis will long have an unsatisfactory death rate. Very truly,

W. L. SCHENCK, M.D.

Syphilitic Marriages.

ST. PAUL, MINN., Sept. 20, 1894.

To the Editor:—For the purpose of securing reliable statistics on the subject of the marriage of syphilitics, I desire to enlist the assistance of those of your readers who have had experience which will be of value in determining the period when this disease ceases to be communicable and inheritable. I shall, therefore, esteem it a great favor on the part of any physician who will send me answers to the following questions; and due credit will be given in a future publication to those who desire to aid me in this work:

1. What is the latest period from the date of the initial lesion that you have known the disease to be communicated by a patient who has been from the first under your observation?

2. What is the latest period from the date of the initial lesion that you have known: *a*, a syphilitic man, or *b*, a syphilitic woman to become the parent of a syphilitic child?

3. Have you ever known syphilis to be either communicated or handed down at a later period than four years from the date of the initial lesion by an individual who has been constantly under your observation during that time?

In answering these questions I should like a brief but complete history of each case and an account of the treatment that has been pursued.

I hope by this means to obtain the experience of a large number of observers and to reach a fairly reliable conclusion as to the time when we may safely permit our syphilitic patients to marry. Yours very truly,

BURNSIDE FOSTER, M.D.

The Societies do Not Send Delegates.

BOSTON, Sept. 18, 1894.

To the Editor:—On page 433 of the JOURNAL for September 15 is a statement that every regular State Society, *except those of New York and Massachusetts*, sends delegates to the annual meetings. The fact is that *both* of these States *do* send delegates. Respectfully, A MEMBER.

BOOK NOTICES.

Materia Medica, Pharmacology and Therapeutics. By W. HALE WHITE, M.D., F.R.C.P., Physician to, and Lecturer on Materia Medica and Therapeutics at Guy's Hospital, London, etc., etc. Edited by REYNOLD W. WILCOX, M.A., M.D., LL.D., Professor of Clinical Medicine and Therapeutics at the New York Post-Graduate Medical School, etc., etc. Second American edition, thoroughly revised. Cl., pp. 661. Philadelphia: P. Blakiston, Son & Co. 1894. Chicago: E. H. Colegrove & Co. Price $3.

The editor says in the preface to this volume that "the radical changes introduced in the last edition of the United States Pharmacopœia has necessitated the rewriting of the entire descriptive part of the materia medica." The National Convention of 1890 instructed its committee on revision to employ the metric system of weights and measures, and the committee say (page 33) that "as directed by the convention the committee has in most cases employed definite weights for solids and measures for liquids in terms of the metric system," but the book continues to use the old British system in giving the doses of medicines. Many of the "definitions," or rather examples, cited in the opening chapter are properly subject to adverse criticism, for example, "Empirical Therapeutics.—Therapeutics based upon clinical experiences only, e.g., the use of mercury for syphilis." This *is* news to carry to those experimenters who have spent so much time in studying the physiologic effect of this drug. Keyes, Voit, Nega, Mialhe, Buchheim, Grassi, Wilbouchemitz and Brentouneau. How a book of this character can go to a second edition passes our comprehension.

Therapeutics: Its Principles and Practice. By H. C. WOOD, M.D., LL.D., Professor of Materia Medica and Therapeutics, and Clinical Professor of Diseases of the Nervous System, in the University of Pennsylvania. A work on medical agencies, drugs and poisons, with especial reference to the relation between physiology and rational medicine. Ninth edition thoroughly revised. Cl., pp. 1007. Philadelphia: J. B. Lippincott Company. 1894.

The work has passed as current coin for so many years that it were a bold man that would undertake its serious criticism. In its statements of the physiologic effect of drugs it is unrivalled, and as a scientific treatise on therapeutics it has few equals, but while one can not paint the lily or gild refined gold, we may always praise a treatise that has for practitioners the charm of truth. When the author has doubts he frankly says so; and there are so many doubts in real life! The only suggestion we would make to the author would be that the additions made necessary by reason of facts learned by recent experiments, be inserted in the text, instead of the brief reference in a foot note, and that the terms be changed to conform to modern usage. Thus while the author uses the term, "official," correctly in the preface, the old term, "officinal" still remains throughout the book, and the metric system of dosage is not used in the text, although it is mentioned, and tables are inserted in the appendix. However, the book will still remain a favorite, for its merits far outweigh these blemishes.

The Rights and Duties of Citizens of the United States; a Manual of Citizenship. By DR. EDWARD C. MANN, of New York. Advance sheets. Published for the author. 1894.

Every word of the opening paragraph in the preface should be engraved on parchment and hung up in every school room, for it is not less true now, than when Cicero wrote in "De Officiis" that "men inherit their principles and defend them afterward as they do their estates." Our author says:

"The scholars in our public schools and colleges should be instructed as to the elements that go to make up a good and useful citizen of our country, and the obligations, civil, social and political, due to others from them. They should be instructed to yield respect and obedience to the laws, and to hold on with unflinching firmness to the Constitution of the United States. They should be taught the love of liberty and order, to walk in the path of patriotism, of fidelity to our country, and of duty to God. This is necessary in order that when they become of adult age they may be prepared to exhibit wisdom in the cabinet; the purest patriotism; the highest integrity, public and private; morals without a stain; and religious feelings without intolerance and without extravagance."

The book is dedicated to the National Educational Association, and the doctrines inculcated are such as can be approved by every well wisher of his country, and in these days when so large a proportion of our school children are of foreign born parentage, these are urgent reasons. The purposes and spirit of the Manual should receive support and encouragement.

A System of Legal Medicine. By ALLEN MCLANE HAMILTON, Consulting Surgeon to the Insane Asylum of New York city, etc., and LAWRENCE GODKIN, Esq., of the New York Bar, with the collaboration of Prof. James F. Babcock, Lewis Balch, M.D., Judge S. E. Baldwin, Louis Binse, Esq., C. G. Chaddock, M.D., C. F. Bishop, Esq., A. T. Bristow, M.D., B. F. Cardozo, Esq., A. F. Currier, M.D., C. L. Dana, M.D., Geo. Ryerson Fowler, M.D., W. T. Gibbs, M.D., W. S. Haines, M.D., F. A. Harris, M.D., W. B. Hornblower, Esq., Chas. Jewett, M.D., P. C. Knapp, M.D., R. C. McMartin, Esq., C. K. Mills, M.D., J. E. Parsons, Esq., C. E. Pellew, E. M. Judge, C. E. Pratt, W. A. Purrinton, Esq., B. Sachs, M.D., F. R. Sturgis, M.D., Brandreth Symonds, M.D., V. C. Vaughn, M.D. Royal, 8vo, cl., pp. 657. Illustrated. Vol. I. New York: E. B. Treat. 1894.

With the formidable array of talent presented on the title page of this volume an excellent book should be expected and a perusal of the contents of this volume is not disappointing. Unlike a great many of the books with so large a staff the articles are all published under the name of the author, who thus accepts the responsibility for it, and the reader is enabled to know what weight to attach to a particular article when he knows who wrote it. The standard books on medical jurisprudence such as Beck, Taylor, McClellan, Wharton and Stillé, are far behind the recent decisions of the courts, while the knowledge of the organic chemistry has created almost a new science since those revered text-books were the sole authorities. Following as this does, so soon after Witthaus and Becker, it will necessarily come into competition with that work, and it is no disparagement to either that they should be so placed. The work under consideration is devoid of padding, is clear and comprehensive, and the references to cases are so full as to make it encyclopedic in scope. It is, therefore, quite likely to become the favorite text-book on legal medicine for the next decade.

Laboratory Manual of Elementary Chemical Physiology and Urine Analysis. By JOHN H. LONG, M.S., Sc.D., Professor of Chemistry and Director of the Chemical Laboratory in the Schools of Medicine and Pharmacy of Northwestern University. With numerous illustrations. Cl., pp. 366. Chicago: E. H. Colegrove & Co. 1894. Price $2.50.

This well-written little book consists of eighteen chapters, of which the first nine are given to elementary chemic physiology, and nine to urine analysis. There is an appendix which gives useful tables and formulæ for test solutions. Students will find it of great value in their laboratory work as a practical and simple guide.

A Handbook of Medical Microscopy. For students and general practitioners, including chapters on Bacteriology, Neoplasms and Urinary Examinations. By JAMES E. REEVES, M.D. With a glossary and numerous illustrations (partly in colors). Cl., pp. 237. Philadelphia: P. Blakiston, Son & Co. 1894. Chicago: E. H. Colegrove & Co. Price $2.50.

The author of this work has long been known as one of the most expert microscopists in the country, and his mounted specimens have been much admired by all who have had the good fortune to see them. In the production of this little volume the author has turned his long prac-

tical experience to good account. He has succeeded in condensing in a minimum space a great deal of material of especial interest to the practitioner. The success of the distinguished author shows that the general practitioner need not despair of becoming a microscopist, if like the author. he will industriously and patiently work out the problem for himself and this book if carefully studied will help to show him how to do it.

Directions for Laboratory Work in Bacteriology. For the use of the medical classes in the University of Michigan. By FREDERICK G. NOVY, Sc.D., M.D., Junior Professor of Hygiene and Physiological Chemistry. Cl. Interleaved, pp. 209. Ann Arbor: George Wahr. (No date). Preface dated April, 1894. Chicago: E. H. Colegrove & Co. Price $1.50.

This is essentially a laboratory book, which gives the technique of practical bacteriologic study. The life history of the commoner bacteria is taken up and the different steps of their development shown and the directions for their complete demonstration are minute and accurate. It is not a treatise on bacteriology, but as its title indicates, a working guide. The formulæ for staining fluids and culture media are given in extenso. The blank pages will enable the worker to make full notes of his own experiments.

SOCIETY NEWS.

Illinois State Medical Society.—The Treasurer of this Society, Dr. George N. Krieger, Springfield, Ill., requests the JOURNAL to announce to members that the volume of Transactions for 1894 are now ready for issue. Gentlemen who have paid their annual dues have already received them; those who have thus far omitted to send their dues can have their Transactions at once on receipt of the amount.

Medical Society of the Missouri Valley.—The seventh annual session of the Medical Society of the Missouri Valley was held at the city hall, Council Bluffs, Iowa, Sept. 20, 1894, under the presidency of Dr. A. F. Jonas, of Omaha. The meeting was called to order at 10 A.M., and after the various committees had made their reports the regular work of the meeting was inaugurated by Dr. W. Ross Martin, of Omaha, who read a paper on chronic articular ostitis of hip with analysis of 208 cases. The following papers were read:

Chronic Articular Ostitis of Hip; analysis of 208 cases, W. Ross Martin, Omaha, Neb.; Report of an Interesting Case. W. O. Henry, Omaha, Neb.; Erosions and Lacerations of Cervix Uteri, Geo. H. Simmons, Lincoln, Neb.; A Case of Spurious Pregnancy, Adda Bowman, Reynolds, Neb.; Amaurosis, from Abscess of Frontal Sinus, Flavel B. Tiffany, Kansas City, Mo.; Two Interesting Cases which underwent Celiotomy, Donald Macrae, Council Bluffs, Iowa: Absorbable Sutures, J. P. Lord, Omaha, Neb.; Sarcoma of Eye—Traumatic Origin, D. C. Bryant, Omaha Neb.; The Treatment of Typhoid Fever, W. F. Milroy, Omaha. Neb.; Mental Deficiency in Children, George Mogridge, Glenwood, Iowa; The Proper Management of Cases of Miscarriage. Mary Strong, Omaha, Neb.; Anal Fistula, J. C. Robertson, Council Bluffs, Iowa; Two Cases of Intestinal Surgery in which the "Murphy Button" was used, J. E. Summers, Jr., Omaha, Neb.; The Medico-Legal Aspect of Paranoia, J. Punton, Kansas City, Mo.; Ovariotomy, with Dermoid Cyst, W. S. Ross, Omaha, Neb.; The Morbid and Curative Influence of Mental and Moral Emotions, W. H. Kerr, Fall City, Neb.; Muscular Asthenopia, C. M. Hobby, Iowa City, Iowa; "Anthrax" or Malignant Pustule, W. Jepson, Sioux City, Iowa; The Beginnings of Disease, A. B. Somers, Omaha, Neb.; Hyperemesis Gravidarum, B. F. Crummer, Omaha, Neb.; Operative Treatment for Vascular Naevus, A. F. Jonas, Omaha, Neb.; A Case of Quadrisectoral Hemianopia, M. F. Weymann, St. Joseph, Mo.; Total Hysterectomy without Ligation of Uterin Arteries, J. E. Summers, Jr., Omaha, Neb.

Tri-State Medical Society, of Alabama, Georgia and Tennessee.—The sixth annual meeting to be held in the ballroom of the Kimball House, Atlanta, Ga., October 9, 10 and 11. There will be three sessions a day—morning, evening and night. Reduced rates on the railroads from all points in the South. Members of the profession are all invited. The following papers are announced:

The Responsibility of a Class of Criminals from a Medico-Legal Point of View. J. C. LeGrand, Anniston, Ala.

Treatment of Stricture of the Urethra by Electrolysis. P. L. Brouillette, Huntsville, Ala.

The Obstructive Urinary Diseases. W. L. Gahagan, Chattanooga.

Urethral Surgery Ten Years ago and To-Day. T. C. V. Barkley, Chattanooga.

Reflex Neurosis in the Male. Andrew Boyd, Scottsboro, Ala.

The Pathologic Import of Albumen in the Urine. E. B. Ward, Selma, Ala.

How to do Abdominal Section without Fuss, Feathers or Foolishness and with Immunity from Sepsis. Joseph Price, Philadelphia.

Puerperal Septicemia with cases illustrating the Several Varieties. J. R. Rathmell, A.M., M.D., Chattanooga.

Reform in the Treatment of the Neurotic and Insane Viewed from the Gynecologic Standpoint. Charles A. L. Reed, Cincinnati.

Essentials of Obstetric Nursing. R. R. Kime, Atlanta.

Pernicious (or Inveterate) Vomiting of Pregnancy. A Plea for the Mother; based on Cases in Actual Practice. E. A. Cobleigh, Chattanooga.

The Induction of Labor to Prevent Blindness. Frank Trester Smith, Chattanooga.

Slaughter of the Innocents. E. van Goidtsnoven, Atlanta.

Prognosis and Treatment of Placenta Previa. Richard Douglas, Nashville.

Uterine Cancer. George R. West, Chattanooga.

Treatment of Uterine Fibroids. W. Gill Wylie, New York.

A Report of some Rare Surgical Lesions connected with the Liver. John A. Wyeth, New York.

The Treatment of Stone in the Kidney. W. E. B. Davis Birmingham, Ala.

Tuberculosis of the Kidney and Bladder. H. Berlin, Chattanooga.

Some Causes Leading to Invalidism in Women. President's Address. J. B. S. Holmes, Atlanta.

Amputation of Mamma for Carcinoma and Treatment of the Axilla. B. W. Bizzell, Atlanta.

Excision of Malignant Tumors of the Breast. Willis F. Westmoreland, Atlanta.

Some Remarks upon Brain Surgery, with Report of Cases. Paul F. Eve, Nashville.

The Surgical Treatment of Empyema. J. A. Goggans, Alexander City, Ala.

Some Points in Rectal Surgery. J. M. Mathews, Louisville.

Appendicitis—It Surgical Treatment, and Report of Cases. R. J. Trippe, Chattanooga.

Treatment of Injuries and Inflammations of the Joints Wm. L. Nolen, Chattanooga.

Burns and Treatment Thereof. T. Ellis Drewry, Griffin, Ga.

Is there Danger of not getting Good Union after Tenotomy. C. W. Barrier, Columbus, Ga

Hygienic Treatment of Syphilis. T. M. Baird, Hot Springs, Ark.

Mixed Infection. M. B. Hutchins, Atlanta.

Electro-Therapeutics. J. P. Stewart, Chattanooga.

Headaches; Their Etiology and Treatment. R. P. Johnson, Chattanooga.

Migraine; Its Etiology and Treatment. Hugh Hagan, Atlanta.

Tuberculosis of the Nasal Bones. B. F. Travis, Chattanooga.

Adenoids and their Sequelæ. Arthur G. Hobbs, Atlanta.

Paresis and Paralysis of the External Rectus of the Eye with Report of Two Cases. Dunbar Roy, Atlanta.

The use of Hydrastis Canadensis in Diseases of Mucous Membranes. P. R. Cortelyu, Marietta. Ga.

Combination of Carbolic Acid and Camphor as an Antiseptic and Local Anesthetic. William Perrin Nicholson, Atlanta.

The Treatment of Pneumonia in Children. Frank S. Parsons, Philadelphia.

The Treatment of Smallpox. C. H. Holland, Chattanooga.

Some Practical Points in the Treatment of Typhoid Fever. James B. Boid, Atlanta.

The Hygiene of the Hospitals and Prison Camps of the Georgia Penitentiary. W. O'Daniel, Atlanta.

An outline of the History of Medicine and Surgery in Georgia. L. B. Grandy, Atlanta.

Unusual Nervous Phenomena in a Case of Fracture of the Fifth Cervical Vertebra, with its Pathology. W. C. Townes, Ph. B., M. D., Chattanooga.

The following notice has been issued:

My Dear Doctor:—You are invited, with your friends, to attend the sixth annual meeting of the Tri-State Medical Society of Alabama, Georgia and Tennessee, to be held in the ballroom of the Kimball House, Atlanta, Ga., Tuesday, Wednesday and Thursday, October 9, 10 and 11, 1894.

FRANK TRESTER SMITH, M.D. Sec'y,
Chattanooga, Tenn.

J. B. S. HOLMES, M.D. Pres't, Atlanta, Ga.

SELECTIONS.

Report on the Etiology and Prevention of Diphtheria—Presented on behalf of the German Committee to the Eighth International Congress of Hygiene and Demography, at Buda-Pesth.

[The following is the summary of the conclusions of this important report:]

1. The productive agent of diphtheria is the diphtheria bacillus. Dispute as to the etiologic definition of this bacillus exists no longer. We can, therefore, henceforth indicate as diphtheria such forms of disease as are infested with the bacillus.

2. Not infrequently cases appear in the early stages to the clinical observer as true diphtheria, which, however, are caused by other organisms, as streptococci, staphylococci, pneumococci, and in light or graver form may be mistaken for diphtheria. But the differential diagnosis can be effected through bacteriologic research. Statistical compilations on the epidemic spread of diphtheria, as well as on the character of diphtheritic epidemics, can not represent an exact definition so long as the bacteriologic investigation of cases suspected of diphtheria fails to mark a division between true diphtheria bacillus and cases merely resembling diphtheria.

3. Diphtheria epidemics show a various character, as do many other epidemics of infectious disease. The course of epidemics is very often light, but also much more severe, indicated by the high figure of the death rate, the rapid infection of the larynx and the nose, and by severe heart and kidney affections, and consecutive paralyses. But also in the same epidemic instances of severe and light forms of disease frequently alternate irregularly.

4. The variation will be determined by several factors: *a* by differences in the number and the virulence of the diphtheria bacilli; the causes of the latter are not yet absolutely known; *b*, by concomitant bacteria, and, indeed, as much by pathogenic as saprophytic; the processes of infection with regard to the diseased mucous membranes in the passages and in the nose appear to influence the course of the disease unfavorably, in part by increasing the virulence of the bacilli, in part by weakening the body through absorption of decomposition products; *c*, by individual tendencies not yet thoroughly recognized.

5. The diphtheria bacillus can appear in the passages, especially of the nose, of separate individuals without causing indications of sickness, which it first induces when it has actually established itself. Lesions of the mucous membranes, small eruptions, catarrhal changes, are favorable to its residence. In brief, meteorologic conditions giving admission by the first approach to catarrh, especially cold damp weather, appear to favor the sickening from this cause. But this influence has to be more closely observed

6. Diphtheria is most rapidly communicated by direct contact between sick and well through spitting, coughing sneezing, kissing and grasping of the hands, whereby the hands come into contact with fresh secretion, but also freely through utensils which the sufferer has fouled, with his excretions by beverages, food, eating and drinking vessels, cast off washing, clothes and other articles, as pocket handkerchiefs, playthings, even long after their actual infection.

7. The sick is infectious so long as he has bacilli upon the mucous membranes. The bacilli usually disappear with or soon after the disappearance of the local signs, but they may be detected still lively and virulent in the passages or nose for weeks and even months.

8. In organic matters condensed and excluded from light the bacilli can maintain themselves for a period of months outside the body; accumulations of dirt, dark and close dwellings favor thus the preservation of bacilli and the extension of disease.

9. As a specially noticeable vehicle for the extension of disease is to be noted the crowding together of susceptible individuals, especially in families of many children. But other gatherings of people, apart from children, where separate persons do not come into such proximity as the members of a family, may offer facility for the extension of infection, as schools, barracks, and the like.

10. The diphtheria bacillus is so far not identified with certainty as the cause or inducer of other diseases similar to diphtheria or of other spontaneous disease of lower animals. The possibility of the conveyance of true diphtheria from sick animals to human beings is thus outside our present knowledge. It is desirable that the governmental investigating committees should combine with research regarding diphtheria coming under their notice the similar diseases of animals, and also the communication from animals to human beings of diseases resembling diphtheria.

11. As prophylactic means are to be considered: *a*, care for cleansing, keeping dry, sufficient ventilation, and lighting of the dwelling; *b*, careful cleansing of the mouth and nose, gargling with weak solutions of common salt and carbonate of soda, thorough brushing of the teeth, extraction of bad teeth, attention to the deeper cavities of the tonsils, and removal of hypertrophied tonsils; *c*, cold douching of the throat in times of diphtheria prevalence.

12. Every case suspected as diphtheria must, when possible, be bacteriologically investigated. The physicians must have easy access to the required materials for carrying on the culture, for example, in the chemists' shops. The investigation has to be carried on by specialists, as in the case or cases of suspected cholera.

13. All cases proved bacteriologically to be true diphtheria, as well as all cases suspected as diphtheria which have not been bacteriologically investigated, must be dealt with as under police regulations.

14. Every diphtheria case must be isolated either in a separate room of the dwelling or in an isolation ward. In order to restrict as much as possible the spread of the bacilli by the sick, a local anti-bacillar treatment must be employed with a view to prophylaxis against the early stages of the disease.

15. One of the most effective means against the spread of diphtheria to be cared for is the protective inoculation of susceptible individuals in the neighborhood of the patient, especially of children. In proportion as the innocuousness of Behring's serum cure through preventive injection is established for curing or prophylaxis, it appears worth while to develop further as far as possible the art of inoculating it in families and in school classes in which diphtheria cases have occurred.

16. In every case of diphtheria disinfection is imperative. This is needed for all utensils for the sick, as well as for the sick themselves and the sick room.

17. Convalescents from diphtheria must not mix freely with others (or children go to school) till bacteriologic investigation has proved the removal of the bacilli, and the sick after a warm bath with soap have been thoroughly cleansed and have put on clean clothing

18. On the outbreak of diphtherial epidemics, notification should be given in the public press.—F. LOEFFLER, M.D., Professor of Hygiene in University of Griefswald, in the *British Medical Journal*.

PUBLIC HEALTH.

A Healthful Season.—Reports to the JOURNAL from State Boards of Health and health officers of cities in all parts of the country almost uniformly concur in pronouncing the past four months one of the most healthful periods on record. This is especially true in the large cities; New York, for example, is congratulating itself on a reduction of 2,600 deaths in the period from July 1 to September 15, as compared with the corresponding period last year, and estimates that, notwithstanding the increase of population, the total deaths for the year will be less than 42,000 as against 44,500 in 1893; it is noted, also, that the birth rate of the city to the middle of September is nearly 10 per cent. in excess of the usual birth rate for corresponding periods. Even with the smallpox incidence in Chicago, Brooklyn, Detroit and Milwaukee, as well as in New York, the season has been exceptionally healthful. In some of the smaller cities, with defective water supplies, the prolonged dry weather has been unfavorable to the general health in causing an increase of typhoid and other intestinal diseases. But, on the whole, the summer season of 1894, and thus far in the autumn quarter, the general health of the country has been above the average.

Pure Food Exposition.—Under the somewhat ambitious title of the "World's Pure Food Exposition," an exhibit of food products will open in Chicago, October 1, prox., and continue three weeks. It is announced that not only will specimens of all manner of edibles be shown, but that the processes of manufacture of many kinds of food products will be exhibited and explained and "high art cookery" be exploited for the benefit of visitors. If the associations under whose auspices this exposition is held should exert their influence toward legislation for the suppression of adulteration—if even only to the extent of the proper branding of adulterated foods and drugs—they would confer fully as much benefit on the public as by their show. Special Agent Wedderburn, of the Department of Agriculture, asserts that there is 15 per cent. of adulteration in the $6,760,000,000 worth of food, drinks and drugs which the 65,000,000 people of this country annually consume. That is to say, our purveyors of these articles extort over a billion dollars a year from the hungry, thirsty and sick, under false pretenses. It is true that only about 2 per cent. of the adulteration is injurious to health; but even this amounts to $135,000,000 annually "paid by the American people for sacrifice of their lives or injury to their health." Mr. Wedderburn, in his recent report, says that foreign competitors of our manufacturers of food products use the fact of this extensive adulteration to their own advantage, and that the United States "occupies the unenviable position of being one of the very few countries that fail to require by law the proper branding of their manufactured food and drugs." The legislation suggested is not less in the interest of the pockets of the people, to the extent of the enormous sum above given, than it is in the interest of the public health.

Typhoid Fever and the Drouth.—Dr. Henry B. Baker, Secretary of the Michigan State Board of Health, has issued a circular note of warning to the health officers of that State on the danger to be apprehended from the pollution of water supplies owing to the recent protracted dry weather. He states that the water in the test well at Lansing in September, 1893, was three inches more than the average of previous years, while it is now four inches less than the average and says: "For the second week in September, typhoid fever is reported from thirteen places more this year than last year. More people should boil their drinking water, and all should be more careful not to breathe or take in on fruit, celery, or other uncooked article, any dust from dried human excreta, that substance being usually the cause of typhoid fever. The danger usually culminates in October." In an accompanying chart Dr. Baker shows the relation of sickness from typhoid fever to the rise and fall of the water in wells in Michigan for a period of ten years. Although this chart is not recent, its lesson is most striking and appropriate at this time. The curves of depth of soil above the ground-water of wells and of the amount of typhoid are almost identical; in other words, when the ground-water in wells is highest—*i. e.*, the least depth of soil above the surface of the water—there is the least sickness and *vice versa*. Thus, in May, when the ground-water is highest only 5 per cent. of the reports state the presence of typhoid fever; in October, when the ground-water is lowest, 20 per cent. of the reports state the presence of the disease. The graphic curves of the chart add emphasis to Dr. Baker's warning.

Smallpox and Typhoid.—During the last ten days there has been a remarkable subsidence of smallpox, especially in Chicago, where it was feared, from the increase of new cases in August, that an epidemic had begun. Up to the 27th inst. there had been but thirty-six cases in September and during the first four days of the week only three new cases were reported. From Milwaukee, Dr. U. O. B. Wingate, Secretary of the Wisconsin State Board of Health, reports to the JOURNAL, under date September 24: "Since September 10, smallpox has appeared as follows in this State: Dover, Racine County, one case; La Crosse, La Crosse County, one case (that of Dr. Marquardt, member of the State Board of Health, reported in the JOURNAL of the 22d); Milwaukee, Milwaukee County, seventy-nine cases, fourteen fatal; Wauwatosa, Milwaukee County, nine cases, two fatal; Two Rivers, Manitowoc County, two cases. Total number of cases reported in Milwaukee since outbreak of January last, 315, of which there were fatal, 74. Total number of cases now existing (September 24) in Milwaukee, 103. Total number of cases reported in the State since the beginning of the outbreak, 427, of which there were fatal, 107. Total number of places infected in the State since the beginning of the outbreak, thirty-seven; total number of places now infected, seven." The outbreak in Newark, N. J., is reported to be rapidly subsiding. Although there has been some spread of the disease in Leavenworth, Kan., the health authorities do not anticipate serious trouble and believe the outbreak is under control. A case, said to have been contracted in Pittsburg, Pa., during the Grand Army encampment, is reported from one of the neighboring towns in Pennsylvania.—While there is a decided increase in the typhoid fever mortality, largely in excess of the usual autumnal increase, no reports have been received of any epidemic incidence of the disease. Special attention is being paid to water supplies—in many localities as a matter of necessity owing to the cause heretofore noted, namely, the effect of the prolonged drouth on water courses and ground-water. The increase of typhoid fever emphasizes this necessity and a permanent improvement of the quality of water supplies will, no doubt, result in many places.

Iowa Health Bulletin.—The current number of the Bulletin of the Iowa State Board of Health (edited by Dr. J. F. Kennedy, Secretary of the Board,) records a well-authenticated case of the transmission of diphtheria by a pet dog, which was, unfortunately overlooked while taking all other precautions; the reporter, Dr. A. O. Strout, adds: "Wherever any contagious disease exists, especially diphtheria, we should not forget the dogs and cats when disinfecting, and if they are inclined to stay in the house shoot them at once."——Dr. Frederick Becker, President of the Board, renews his warning of the danger of the spread of infectious diseases by itinerating pack-peddlers, and illustrates his subject by cases in point; he is convinced that the pack-peddler is becoming more and more the disseminator of contagion and infection.——The editor dwells upon the frequent fatal accidents from the careless use of kerosene and gasoline and calls attention to the importance of Rule 5 in the Board's circular on "Kerosene Oil . . . Gasoline and Its Dangers," which reads as follows: "If, from leakage from a stove or vessel, there is discovered an odor of gasoline in a room that

has been closed, throw open the doors and windows until the air is changed before a match is struck or a flame of any kind is permitted therein."——Considerable space is given to the correspondence elicited by the attempt to ship the body of Dr. John Sinnett—who died of diphtheria in New York—to his late residence in Muscatine, Iowa; it would appear from this correspondence that the rules for the transportation of the bodies of those dying from contagious diseases are are not always carried out, and that in some States they are practically a dead letter; in Iowa, however, they are rigidly enforced, Dr. Kennedy remarking that, while from a sentimental standpoint, the enforcement may be regarded as harsh and unfeeling, from a sanitary point of view it is essential for the protection of the public.——Prefacing an address on the sanitary needs of Dubuque by the physicians of that city and furnished to the Bulletin by Dr. E. A. Guilbert, member of the State Board of Health and President of the Iowa State Board of Medical Examiners, the editor takes occasion to say that "It is an able and earnest appeal and comes from a class of citizens and tax-payers whose financial interests would be best subserved by preventing rather than urging such sanitary measures; the address is not only applicable to Dubuque but will, doubtless, interest many other localities in Iowa."——Dr. Kennedy says there has never been a season in Iowa of such general good health as during the past four months, and finds cause for congratulation in the fact that there has been no case of smallpox in the State for several weeks prior to September 1; but is sorry to admit that there is still a dangerous neglect of vaccination.

MISCELLANY.

Dr. W. M. Scott, of Pittsburg, has been appointed physician to the poor of that city, *vice* Dr. P. D. Perch.

Dr. W. L. Jennings, of Boston, has been appointed Professor of Organic Chemistry at the Wooster Polytechnic Institute, *vice* Dr. George D. Moore resigned.

Dr. Wm. G. Bissell, City Bacteriologist of Buffalo, N. Y., has been appointed Assistant Surgeon of the Seventy-fourth Regiment.

Dr. D. G. Hathaway, of Milwaukee, has been appointed Medical Superintendent of the Oshkosh Hospital for the Insane, *vice* Dr. Wegge, resigned.

Dr. Waldo, a London Health Officer, has found thirteen different kinds of living microbes in a new loaf of bread. It is said that the London underground bakehouses are proverbially dirty.

Biologic Station in Norway.—A biologic station is to be established at Drobatt in the Fiord of Christiania and near the city of the same name. It will be installed on the model of the celebrated station at Naples, and, like the latter, will be open to foreigners.

Physicians and Street Names.—A committee of the Municipal Council of Paris has decided to christen some new streets and rename some old ones after the following physicians and scientists: Jean Baptiste, Dumas, Milne Edwards, Trousseau, Charcot, Ulysse Trèlat.

A Japanese Army Ambulance Fired Upon.—The reports from the seat of war near Seoul, Corea, show that the Chinese fired upon an ambulance of the Japanese service, although the attendants wore the Geneva cross. An ambulance surgeon was slain, with others, by the Chinese volley. We trust there is some error in the reports, somewhere.

The Eleventh Census.—The work of the census of 1890 is rapidly being closed up. In less than five months, or about February 1, 1895, the end will have been reached. The work on population and vital statistics is the part that now remains to be completed. Population by occupations has been the last of the population tables to be brought up, but the end is now in sight.

The Ideal Physician.—In an article upon the subject, how to choose a doctor the author Dr. Kane says: The ideal physician has intelligence, education, courage, patience, sympathy, truth and a high conception of the grand destiny of humanity. When you find such a one, one with a soul as well as mind and body, respect him and do not turn to the first humbug who "knows it all" when your good physician in his honesty sometimes says "I don't know," in reply to a question that science itself has not yet answered.

If he sometimes says that you do not need medicine, and gives you some good advice in regard to your manner of life instead, prize him. He is honest.—*Medical Summary.*

An Anti-Contagium Society in Asia.—At Baku, on the Caspian Sea, the advance wave of sanitary knowledge has been the means of establishing a new society intended to do away with hand-shaking and osculation in the greeting of acquaintances. The ground is taken by the members of this society that these acts tend to propagate and disseminate the bacilli of disease. According to the Paris *Herald* the friends of this movement are males, and the ladies of the city have entered a protest against it to the Governor-General of the province.

Typhoid Fever at Marlboro, Mass.—The prevalence of fever at this place has impelled the State Board of Health to make an investigation as to its causation. Dr. Sedgwick, bacteriologist of that Board, has been detailed to visit the town. From the preliminary studies made, it does not seem possible to incriminate the water supply of the town as the source of sickness. The condition of the sewers, on the other hand, has been the occasion of much complaint, on account of alleged inadequate cleansing and flushing. The investigation is still pending.

Was not Spoiled by Prosperity.—A newspaper paragraph is going the rounds to the effect that a Scotch girl named Lithegow recently graduated from the medical school of Ann Arbor University with a very fair record. Immediately following the event came the news that an uncle had died in Glasgow, Scotland, and left her a fortune variously estimated at $650,000 to $800,000. The young doctress exhibited no surprise or emotion on receiving the announcement, but merely said: "That will enable me to relieve the wants of the poor, without any regret for the loss of my time and labor."

Electric Melons.—All organisms and living tissues produce a certain amount of electricity, which may be made manifest by the galvanoscope or other more delicate apparatus. Consequently the following experiment, performed by an English electrician and recounted in the *Revue Scientifique*, is not so singular as it appears at first glance. He took a dozen ripe melons and connected them together so as to form a battery, by running a platinum wire from the top of one melon to the bottom of the next, and obtained a current strong enough to work an electric bell. The experiment only succeeded with ripe melons and when they were insulated by being placed upon glass.

Oikology, or the Science of the Home.—This new science is for the benefit of those, more especially our wives and housekeepers, who are aiming at a truly wholesome condition of the home. The word is said to be Bostonese in origin, and has the same Greek root as economy, namely from *oikos*, a house or domicile. Mrs. Tobey, of Boston, who is President of the Massachusetts Household Economic Association, a branch of that national organization of similar name, has been engaged in lecturing to full audiences on oikologic subjects. The National Association, above referred to, is in its turn a reflex of the sanitary work done at the World's Fair last year, whereby the eyes of many were opened as to the improvements in home life that have been made possible by sanitarians, inventors and food producers. No one can receive any harm from oikology.

A Worthy Saying: Medical Advice Indispensable to the State.—Dr. E. Long Fox, the new President of the British Medical Association, in his inaugural address spoke upon the benefits conferred on the general public by medical men. Among other notable sayings of his, the following is worthy of lasting remembrance: "Happy is that State that legislates, in all things concerned with the well-being of the people, in dependence upon medical advice."

Here is food for thought. We know here, no less than does the profession of Great Britain, how futile and transitory is much of the legislation on vital questions, simply for the reason that medical opinion is ignored, when the laws are framed. The great feature of medical counsel in law making is that it commonly effects two important purposes, at one and the same moment; it tends to the reduction of pain and human misery (our primal function); secondly it shows the way to a reduced expenditure on the part of the State, especially in the elevation of the deficient classes. These classes are, as the result of medical investigations, to an increasing extent put in a condition of earning, in part at least, their own livelihood. These classes, left to the good offices of the average legislator, would never cease to be a dead weight and a burden on the pauper fund. In fact, the average politician often looks upon it as personal slight to himself to have his imbecile charges trained to work for their own support.

Medical College Notes.

The Wisconsin College of Physicians and Surgeons was reopened September 18, with a class of thirty-four. The opening address was made by Dr. Mereness.——Toledo Medical College, opened September 19, with a class of one hundred.——The Ohio Medical University at Columbus held its opening exercises September 19, with a larger class than last year. Drs. Brown, Ross and Burner made addresses.——Prof. D.R. Porter, of the Kansas City Medical College has resigned. A reception was given by the Faculty and Alumni Association September 17.

Hospital Notes.

St. Joseph's Hospital, Paterson, N. J., is to have a new maternity ward.——The Women's Hospital, Detroit, acknowledges a donation of $2,500 from the estate of C. H. Buhl.——A contract has been let for a new Catholic hospital in Cincinnati, the cost to be $15,000.——Anderson, Ind., is to have a new hospital to cost $100,000; it will be managed by the Sisters of the Holy Cross.——The managers of the Colored Home and Hospital, Brooklyn, N. Y., are disturbed because of a report that the property is in the way of the new East River bridge.——Dr. Simeon B. Bell, of Kansas City, Kan., has given land valued at $125,000 to found a hospital and medical college. The college is to become the Medical Department of the State University at Lawrence.——St. Mary's Hospital, of Evansville, Ind., was dedicated September 20.——The contract for building the hospital to be erected by the Atchison, Topeka & Santa Fé Railway at Topeka, was awarded September 15. The probable cost of the hospital will be $80,000. It will be the principal hospital of the system, and in addition to accommodations for railroad men it will be equipped with a ward for others who may be ill or meet with accident.

For Hospital Ambulances.—The makers of hospital ambulances have learned something from the bicycle makers. They are now using the pneumatic tires, which save the jarring and jolting. The well-known lines of Hood:

> "Then rattle his bones over the stones;
> For he's a poor pauper whom nobody owns,"

will no longer be applicable to the unfortunates who are conveyed in hospital ambulances.

Dr. David Gilbert Hathaway, of Milwaukee, was September 19, appointed Medical Superintendent of the Northern Hospital for the Insane, at Oshkosh, Wis.

Washington Notes.

Health of the City.—There was no death from either diphtheria or scarlet fever reported while there were seven fatal cases denominated as typhoid fever against six during the same period last year and eight in the year previous to that. The report for the week ending September 15, is as follows: Number of deaths, 90; white, 59; colored, 31. Death rate per 1,000 per annum, white, 13.2; colored, 17.9; total population, 16.4. Twenty-eight were under 5 years of age, 23 were under 1 year old and 12 over 60 years. Twelve of the deaths occurred in hospitals and public institutions. The deaths by classes were as follows: Zymotic, 28; constitutional, 13; local, 42; developmental, 4; violence, 3. The principal causes of death were: Consumption, 6; diarrheal, 12; typhoid fever, 7; malarial, 3; pneumonia, 2; congestion of the lungs, 2; bronchitis, 1; whooping cough, 2; kidney diseases, 1; meningitis, 1; cancers, 3. Births reported: Thirty-two white males, 32 white females, 23 colored males, 23 colored females. Marriages reported: Twenty-eight white, 11 colored. Stillbirths reported: Five white, 7 colored.

More Bad Pumps.—The inspection of pump water continues and more pumps have been found to contain water contaminated with colon bacillus, and have been closed by the Commissioners.

Diphtheria Regulations.—The Health Officer is preparing a compilation of the regulations and rules for the handling of cases of diphtheria and scarlet fever in the District. The present publication is unsatisfactory in being too costly and not complete enough, and he expects to make the cost of the new one so small that physicians of the city may be able to distribute them among the families of their patients and that the instructions will be so full that the danger from infection may be greatly diminished.

Garbage Disposal.—Pursuant to act of Congress, the Commissioners have been making investigations into the best and cheapest method of disposing of the garbage of the District, and the Health Officer has been sent to the principal Northern cities to investigate the subject. It is more than probable that the method by incineration will be adopted and Congress will be requested to furnish the plant and have it operated by the District authorities. The authorities of Alexandria, Va., are constantly complaining of the nuisance caused by the presence of the foul smelling scows conveying garbage past their city, and they threaten to sink them.

Army Surgeons Detailed to Montreal.—By direction of Gen. Schofield, Acting Secretary of War, Maj. Charles Smart, Surgeon, and Capt. Harry O. Perley, Assistant Surgeon, have been detailed to represent the Medical Department of the Army as delegates at the twenty-second meeting of the American Public Health Association to be held at Montreal, Canada, Sept. 25 to 28, 1894.

Hospital for Life Savers.—The Marine-Hospital Bureau has issued a circular carrying into effect the law extending the benefits of the marine-hospitals to the keepers and crews of life-saving stations. A list of nineteen hospitals where they can be treated is given.

The Health Department and New Cemeteries.—The application of the President and Secretary of the congregation of Agoodas Achim for a permit to establish a new cemetery in a suburb of this city, was referred to the attorney for the District for legal opinion. In his decision to the Commissioners, Attorney Thomas says: "That no new cemeteries can be established in the District of Columbia without authority of law, unless by a cemetery association organized under Section 594, and following, of the District Revised Statutes or unless the person or persons desiring to establish the cemetery dedicates land therefor, not exceeding five acres, according to the provisions in Section 604 of said statute. It must be apparent that the Health Officer has nothing to do with the establishment of a cemetery. His functions as to cemeteries relate to interments and disinterments."

Honors for Dr. Taylor.—Dr. Thomas A. Taylor, Microscopist of the Department of Agriculture, has received from the Society for the Advancement of Hygiene, of Brussels a silver medal, intended as an acknowledgment of the value of his scientific work. Two diplomas have also come to him from the World's Fair, and for his exhibit of 1,000 models of

the mushrooms of America, and the other for his exhibit of instruments of precision invented by himself for mieroscopie work.

TEMPORARY PRESIDENT ELECTED.—Rev. Samuel H. Green has been elected temporary President of the Columbian University to succeed the late Dr. James C. Welling. Dr. Green has been Vice-President for a number of years.

St. Louis Notes.

ST. LOUIS MEDICAL SOCIETY.—The meetings of the St. Louis Medical Society were resumed on the 15th inst. The program for the meeting on the 22nd inst. consisted of a continuance of a discussion begun at the preceding meeting: "The effect of gases and odors emanating from sewers and various mercantile and manufacturing establishments upon the health of communities;" the presentation of a specimen of tubal pregnancy by Dr. H. C. Dalton, and specimens of strangulated femoral hernia by Dr. A. H. Meisenbach. The discussion of the effects of gases upon health comes *apropos* of much complaint that has been aroused by the city plant for the disposal of garbage, dead animals, etc. A vigorous effort has been made to induce the Board of Health to abate the nuisance, but thus far without success. There seems to be a prospect that the political "pull" will prove to be as strong as the odors; if the community can not weaken the "pull" it can hardly expect to mitigate the emanations from its profitable city establishments.

PROF. W. S. CHAPLIN.—The return of W. S. Chaplin, Chancellor of Washington University, has re-awakened a lively interest, professional and public, in the now famous speech made at the banquet of the Harvard Medical Alumni Association, and in which he reviled and derided the science and culture of the West, and of St. Louis in particular. The Chancellor's thrusts were most pointedly directed toward the medical colleges of St. Louis, which he characterized as institutions founded for the professional advancement and advertisement of medical specialists; but his sweeping imputation to Westerners of profound ignorance of even the significance of the words, science and culture, aroused feelings of enmity in the general public as well as in medical men; and it is rumored that the Chancellor may be invited to find a field of usefulness elsewhere for the exercise of his talents. As if to controvert his statements, the medical schools of St. Louis have entered on a year of striking increase of prosperity; several of the colleges show enrollments of students far in excess of previous years, notwithstanding the fact that all comply with the requirements of the Association of American Medical Colleges. This is especially true of the newer and more progressive schools. This year many students who formerly attended in the East have been attracted to St. Louis by the somewhat low fees that prevail here, so that the hard times have favored our medical schools. With a continuance of the present spirit of worthy emulation in the faculties of our colleges, St. Louis will quickly take the second place as an important center of medical science.

THE CITY BOARD OF HEALTH, it is said, is not a unit in its efforts to control the advertising propensities of the heads of city medical institutions. At least one member of the Board is thought to be in favor of allowing such officers all the scope they desire in the direction of publicity, believing that such posts are accepted largely with a view to future reputation in the community for medical and surgical skill. It would seem that any prestige gained through service as superintendent of a large hospital is legitimate enough, but it is going far beyond limits of even city hospital tradition to use the daily press as it has been used of late. To show the length to which the rules of the Board can be disregarded, a daily paper lately contained the report of an important operation performed at the City Hospital and credited to one of the members of the Board, though it is said that he was not even present at the operation. Such a playful example of medical reporting is a demonstration of the general character of the public statements emanating from the institution. The most serious aspect of this matter, however, is the unlawful and inconsiderate publicity given to cases of an unfortunate character where young women especially are involved; and it is within the bounds of possibility that some patient cognizant of his or her rights in the matter of medical treatment may take occasion to make the management of the City Hospital suffer for its selfish and inconsiderate indiscretion.

THE BOARD OF HEALTH, during the year notified all former consultants of the City Hospital that their services would be dispensed with. This action, it was alleged, was made necessary by the assumption of this great dignity by unqualified medical men, who made use of this title without authorization, and thus brought discredit to the Hospital and its ethics. The members of the Board have since become the self-appointed consulting staff, and the profession of St. Louis feel secure in the assurance thus given that all will henceforth be as it should be. In justice it should be added that many former consultants were merely so in name, since they could not be depended upon to respond to a call.

THE PUBLIC SERVICES.

Army Changes Official list of changes in the stations and duties of officers serving in the Medical Department U. S. Army, from Sept. 14, 1894, to Sept. 21 1894.

Capt. EDWARD C. CARTER, Assistant Surgeon, is relieved from duty at Vancouver Barracks, Washington, and ordered to Fort Buford, South Dakota, for duty, relieving Capt. AARON H. APPEL, Assistant Surgeon.

Capt. APPEL, upon being relieved by Capt. CARTER will proceed without delay to Fort Ethan Allen, Ver., and report for duty at that post.

Capt C. N. B. MACAULEY, Assistant Surgeon, is granted an extension to twenty-three days of his seven days' leave of absence.

Capt. W. W. GRAY, Assistant Surgeon, is granted leave of absence for twenty days, to take effect upon the arrival at Fort Schuyler of a medical officer to relieve him.

Capt. LOUIS BRECHEMIN, Assistant Surgeon, is granted an extension to twenty-three days of his seven days' leave of absence.

Major HENRY M. CRONKHITE, Surgeon, is granted leave of absence for one month.

Capt. WILLIAM P. KENDALL is granted leave of absence for twenty-one days, to take effect about Sept. 20, 1894.

LETTERS RECEIVED.

(A) American, S., San Francisco, Cal.; Adams, Ovid L., Shelbyville, Ind.; Andrews, B. J., Burlington, Iowa.

(B) Bernd, Henry & Co., St. Louis, Mo.; Barbat, Henry, San Francisco, Cal.; Berkmeyer, Bechtel & Co., Allentown, Pa.; Buxton, Geo. E., National City, Cal.; Bulkley, L. Duncan, New York, N. Y., (2); Baker, A. R., Cleveland, Ohio; Briggs, W. A., Sacramento, Cal.; Beck, Carl, Chicago, Ill.; Brant, W. E., Omaha, Neb.; Batten, J. M., (2) Pittsburg, Pa.; Bates, T. T., Poughkeepsie, N. Y.; Bridger, W. O., Omaha, Neb.; Blair, B. H., Lebanon, Ohio; Barker, H. H., Washington, D. C.

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